

APPLICATION FOR
SUBDIVISION FOR 20
RURAL-RESIDENTIAL LOTS
KAPAWITI ROAD, MANGAWHAI

MANGAWHAI HEADS HOLDINGS LTD
APPLICANT

VOLUME THREE



September 2009

Kaipara District Council
23 DEC 2011
RECEIVED

INDEX

VOLUME ONE

➤ **Application Form**

➤ **Certificate Of Title**

➤ **Assessment Of Environmental Effects**

1.0	The Proposal.....	Page	1
2.0	Reasons for the Application.....	Page	8
3.0	District Plan Provisions.....	Page	10
4.0	Assessment of Effects.....	Page	20
5.0	Statutory Provisions.....	Page	22
6.0	Conclusion.....	Page	24

VOLUME TWO

➤ **Annexure 1**

Ecological Report – Poynter & Associates Environmental Ltd

➤ **Annexure 2**

Assessment of Visual and Amenity Effects – Littoralis Landscape Architecture

➤ **Annexure 3**

Landscape and Visual Assessment – Harrison Grierson

➤ **Annexure 4**

Geotechnical Report – Peters & Cheung Ltd

➤ **Annexure 5**

Traffic Impact Assessment – Kea Consultants Ltd

➤ **Annexure 6**

Infrastructure Assessment – Kea Consultants Ltd

VOLUME THREE

➤ **Annexure 7**

Engineering Design Documents – Kea Consultants Ltd

Application Documentation Prepared by:

Metro Planning Ltd
PO Box 4013
Shortland Street
AUCKLAND
Ph: (09) 303 3457
Fax: (09) 303 4176
Email: brian@metroplanning.co.nz

Applicant Details:

Mangawhai Heads Holdings Ltd
P.O. Box 41 376
St Lukes
AUCKLAND 1346

Annexure 7

- **Engineering Design Documents
– Kea Consultants Ltd**

KAPAWITI ROAD SUBDIVISION MANGAWHAI

FOR MANGAWHAI HEADS HOLDINGS LTD

PROJECT No. 23219

CONSENT APPLICATION - REVISION A

OCTOBER 2008

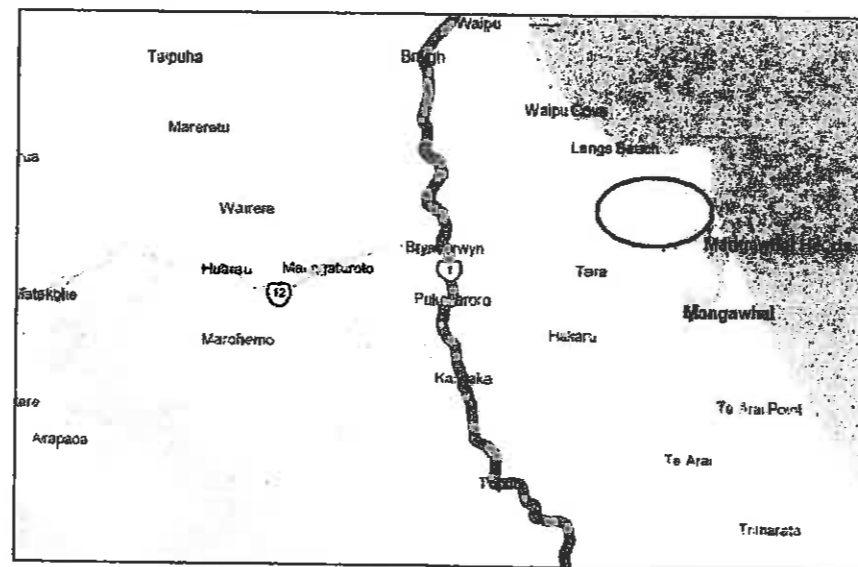


TABLE OF CONTENTS

SUBDIVISION SCHEME

DRAWING No.	TITLE	REVISION DATE	17	
			10	
23219 - C100	SUBDIVISION SCHEME PLAN		08	
23219 - C100.1	STAGING PLAN		A	
23219 - C101	EXISTING TOPOGRAPHICAL PLAN		A	
23219 - C102	PART EXISTING TOPOGRAPHICAL PLAN : SHEET 1 OF 3		A	
23219 - C103	PART EXISTING TOPOGRAPHICAL PLAN : SHEET 2 OF 3		A	
23219 - C104	PART EXISTING TOPOGRAPHICAL PLAN : SHEET 3 OF 3		A	

DRAINAGE

DRAWING No.	TITLE	REVISION DATE	17	
			10	
23219 - C140	OVERALL DRAINAGE PLAN		08	
23219 - C141	PART DRAINAGE DETAIL PLAN : SHEET 1 OF 3		A	
23219 - C142	PART DRAINAGE DETAIL PLAN : SHEET 2 OF 3		A	
23219 - C143	PART DRAINAGE DETAIL PLAN : SHEET 3 OF 3		A	
23219 - C144	OVERLAND FLOW AND STORMWATER CATCHMENT PLAN		A	
23219 - C145	STORMWATER CULVERT DETAILS : SHEET 1 OF 2		A	
23219 - C146	STORMWATER CULVERT DETAILS : SHEET 2 OF 2		A	
23219 - C147	KDC DRAINAGE STANDARD DETAILS		A	

EARTHWORKS & SEDIMENT CONTROL

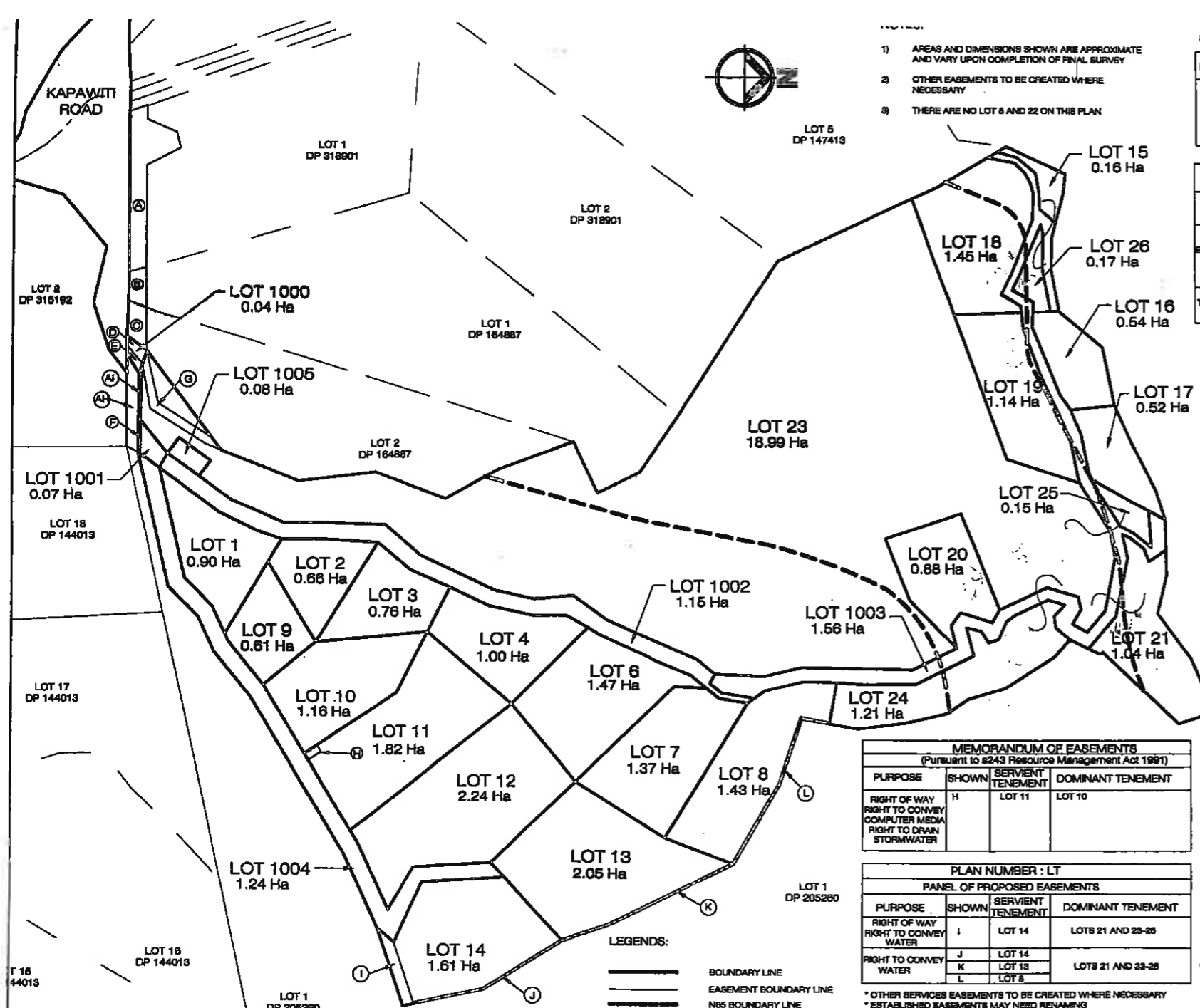
DRAWING No.	TITLE	REVISION DATE	17	
			10	
23219 - C110	EARTHWORKS AND SEDIMENT CONTROL PLAN		08	
23219 - C111	PART EARTHWORKS AND SEDIMENT CONTROL PLAN : SHEET 1 OF 3		A	
23219 - C112	PART EARTHWORKS AND SEDIMENT CONTROL PLAN : SHEET 2 OF 3		A	
23219 - C113	PART EARTHWORKS AND SEDIMENT CONTROL PLAN : SHEET 3 OF 3		A	
23219 - C114	SEDIMENT CONTROL DEVICES		A	

SERVICES

DRAWING No.	TITLE	REVISION DATE	17	
			10	
23219 - C150	POWER AND TELECOM LAYOUT PLAN		08	

ROADING

DRAWING No.	TITLE	REVISION DATE	17	
			10	
23219 - C120	RIGHT OF WAY LAYOUT PLAN		08	
23219 - C121	PART RIGHT OF WAY DETAIL PLAN : SHEET 1 OF 7		A	
23219 - C122	PART RIGHT OF WAY DETAIL PLAN : SHEET 2 OF 7		A	
23219 - C123	PART RIGHT OF WAY DETAIL PLAN : SHEET 3 OF 7		A	
23219 - C124	PART RIGHT OF WAY DETAIL PLAN : SHEET 4 OF 7		A	
23219 - C125	PART RIGHT OF WAY DETAIL PLAN : SHEET 5 OF 7		A	
23219 - C126	PART RIGHT OF WAY DETAIL PLAN : SHEET 6 OF 7		A	
23219 - C127	PART RIGHT OF WAY DETAIL PLAN : SHEET 7 OF 7		A	
23219 - C128	RIGHT OF WAY 1 LONGSECTION: SHEET 1 OF 4		A	
23219 - C129	RIGHT OF WAY 1 LONGSECTION: SHEET 2 OF 4		A	
23219 - C130	RIGHT OF WAY 1 LONGSECTION: SHEET 3 OF 4		A	
23219 - C131	RIGHT OF WAY 1 LONGSECTION: SHEET 4 OF 4		A	
23219 - C132	RIGHT OF WAY 2 LONGSECTION		A	
23219 - C133	RIGHT OF WAY 1 TYPICAL CROSS SECTIONS		A	
23219 - C134	RIGHT OF WAY 2 TYPICAL CROSS SECTIONS		A	
23219 - C135 - 1	RIGHT OF WAY 1: CROSS SECTIONS : SHEET 1 OF 7		A	
23219 - C135 - 2	RIGHT OF WAY 1: CROSS SECTIONS : SHEET 2 OF 7		A	
23219 - C135 - 3	RIGHT OF WAY 1: CROSS SECTIONS : SHEET 3 OF 7		A	
23219 - C135 - 4	RIGHT OF WAY 1: CROSS SECTIONS : SHEET 4 OF 7		A	
23219 - C135 - 5	RIGHT OF WAY 1: CROSS SECTIONS : SHEET 5 OF 7		A	
23219 - C135 - 6	RIGHT OF WAY 1: CROSS SECTIONS : SHEET 6 OF 7		A	
23219 - C135 - 7	RIGHT OF WAY 1: CROSS SECTIONS : SHEET 7 OF 7		A	
23219 - C136 - 1	RIGHT OF WAY 2: CROSS SECTIONS : SHEET 1 OF 2		A	
23219 - C136 - 2	RIGHT OF WAY 2: CROSS SECTIONS : SHEET 2 OF 2		A	
23219 - C137	PRIVATE ACCESS WAY LOCATION PLAN		A	
23219 - C138	PRIVATE ACCESS WAY LOCATION PLAN		A	
23219 - C139	FLEXIBLE PAVEMENT DESIGN CALCULATION		A	
23219 - C139.1	KDC ROADING STANDARD DETAILS		A	



- 1) AREAS AND DIMENSIONS SHOWN ARE APPROXIMATE AND VARY UPON COMPLETION OF FINAL SURVEY
- 2) OTHER EASEMENTS TO BE CREATED WHERE NECESSARY
- 3) THERE ARE NO LOTS 6 AND 22 ON THIS PLAN

SCHEDULE OF EXISTING APPURTENANT EASEMENTS

PURPOSE	SHOWN	SERVIENT TENANT	CREATED BY
ROW	A	LOT 1 DP 318901	EASEMENT CERTIFICATE C414444 .4
	B	LOT 1 DP 164887	EASEMENT CERTIFICATE C414444 .4
	O	LOT 2 DP 164887	EASEMENT CERTIFICATE C414444 .4
	AH	LOT 1 DP 205280	EASEMENT CERTIFICATE D648922 .4

SCHEDULE OF EXISTING SUBJECT EASEMENTS

PURPOSE	SHOWN	SERVIENT TENANT	CREATED BY
ROW	G	LOT 23	EASEMENT CERTIFICATE D648922 .4
	D,E	LOT 1000	
	G	LOT 23	
ELECTRICITY	D	LOT 1000	EASEMENT CERTIFICATE 6371332 .4
	E	LOT 1000	
	AJ	LOT 23	
	F	LOT 1001	
TELEPHONE	E	LOT 1000	EASEMENT CERTIFICATE 6371332 .4
	AJ	LOT 23	
	F	LOT 1001	

AMALGAMATION CONDITIONS (LEGAL ACCESS)

LOTS 1000 AND 1001 HEREOF (LEGAL ACCESS) BE HELD AS TO TWENTY UNDIVIDED ONE TWENTIETH SHARES BY THE OWNER OF LOTS 1 TO 4 AND 8 TO 21 HEREOF AS TENANTS IN COMMON IN THE SAID SHARES AND INDIVIDUAL CERTIFICATES OF TITLE SHALL BE ISSUED IN ACCORDANCE THEREWITH.

LOT 1002 HEREOF (LEGAL ACCESS) BE HELD AS TO FOURTEEN UNDIVIDED ONE FOURTEENTH SHARES BY THE OWNER OF LOTS 1 TO 4, 8 TO 8 AND 15 TO 21 HEREOF AS TENANTS IN COMMON IN THE SAID SHARES AND INDIVIDUAL CERTIFICATES OF TITLE SHALL BE ISSUED IN ACCORDANCE THEREWITH.

LOT 1003 HEREOF (LEGAL ACCESS) BE HELD AS TO SEVEN UNDIVIDED ONE SEVENTH SHARES BY THE OWNER OF LOTS 15 TO 21 HEREOF AS TENANTS IN COMMON IN THE SAID SHARES AND INDIVIDUAL CERTIFICATES OF TITLE SHALL BE ISSUED IN ACCORDANCE THEREWITH.

LOT 1004 HEREOF (LEGAL ACCESS) BE HELD AS TO SEVEN UNDIVIDED ONE SEVENTH SHARES BY THE OWNER OF LOTS 9 TO 14 AND 21 HEREOF AS TENANTS IN COMMON IN THE SAID SHARES AND INDIVIDUAL CERTIFICATES OF TITLE SHALL BE ISSUED IN ACCORDANCE THEREWITH.

LOT 1005 HEREOF (LEGAL ACCESS) BE HELD AS TO SEVEN UNDIVIDED ONE SEVENTH SHARES BY THE OWNER OF LOTS 15 TO 21 HEREOF AS TENANTS IN COMMON IN THE SAID SHARES AND INDIVIDUAL CERTIFICATES OF TITLE SHALL BE ISSUED IN ACCORDANCE THEREWITH.

MEMORANDUM OF EASEMENTS (Pursuant to s243 Resource Management Act 1991)			
PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY RIGHT TO CONVEY COMPUTER MEDIA RIGHT TO DRAIN STORMWATER	H	LOT 11	LOT 10

PLAN NUMBER : LT			
PANEL OF PROPOSED EASEMENTS			
PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY RIGHT TO CONVEY WATER	I	LOT 14	LOTS 21 AND 23-25
RIGHT TO CONVEY WATER	J	LOT 14	LOTS 21 AND 23-25
	K	LOT 13	
	L	LOT 8	

* OTHER SERVICES EASEMENTS TO BE CREATED WHERE NECESSARY
* ESTABLISHED EASEMENTS MAY NEED RENAMING

AMALGAMATION CONDITIONS

THAT LOTS 21, 23, 24 AND 25 HEREOF BE HELD IN THE SAME CERTIFICATE OF TITLE.
SEE FILE _____

THAT LOTS 16 AND 26 HEREOF BE HELD IN THE SAME CERTIFICATE OF TITLE.
SEE FILE _____

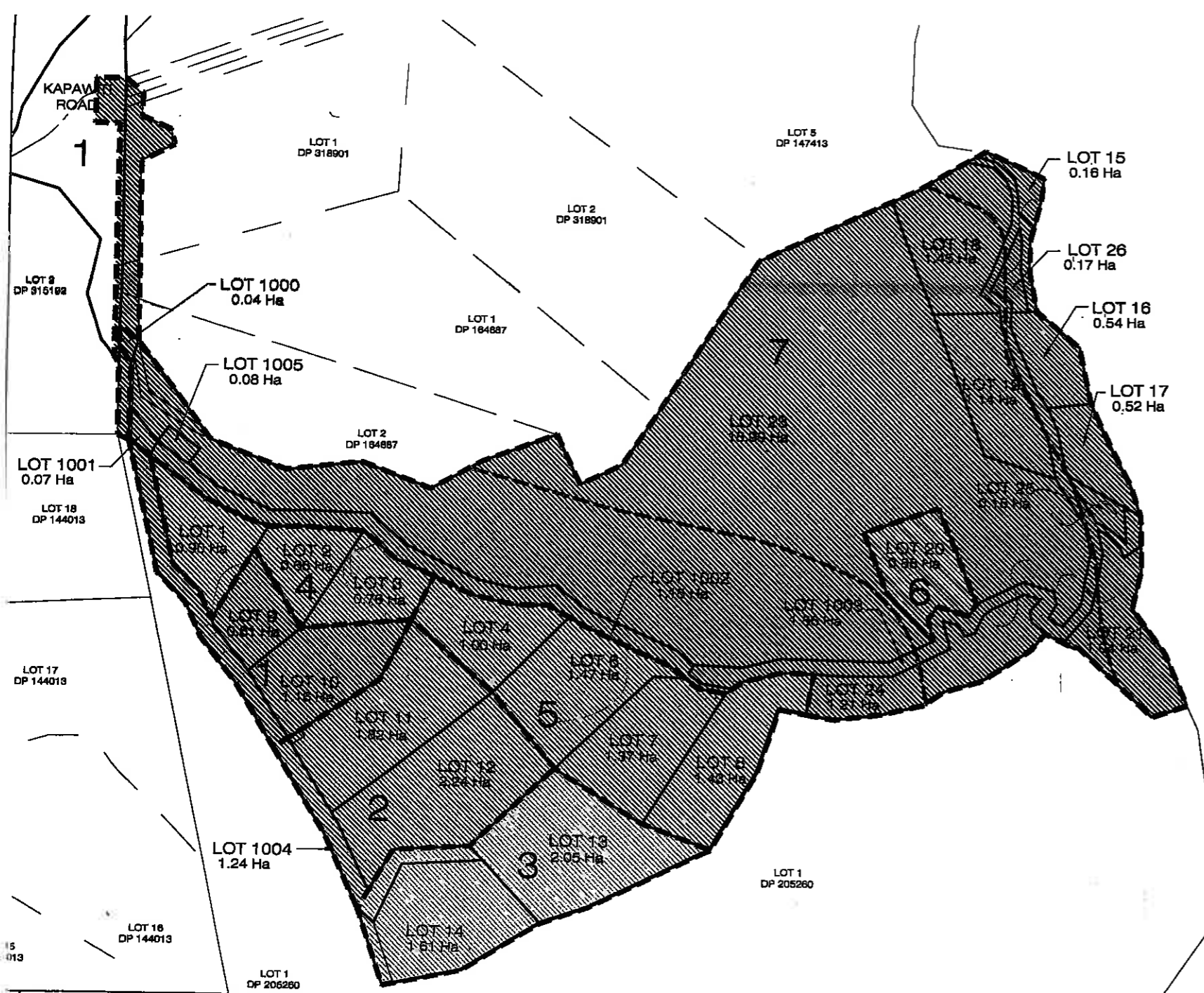
LEGENDS:
 ————— BOUNDARY LINE
 - - - - - EASEMENT BOUNDARY LINE
 - - - - - NBS BOUNDARY LINE

REV	AMENDMENT	DESIGNED	DATE	DRAWN	DATE	CHECKED	DATE
A	ISSUED FOR RESOURCE CONSENT	CJK	22/08/09	SUBMITTED			
				DESIGNED	CJK	22/08/09	
				DRAWN	MBA	22/08/09	
				TRACED			
				CHECKED	GJC	22/08/09	



CLIENT: MANGAWHAI HEADS HOLDINGS LTD
 PROJECT/LOCATION: KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI

SCALE @ A1: 1:2000	SCALE @ A3: 1:4000
PROJECT No: 23219	CAD FILE: MANGAWHAI HEADS HOLDINGS SUBDIVISION PLAN (2009).DWG
DWG No: C100	REV: A



LEGENDS:

- BOUNDARY LINE
- EASEMENT BOUNDARY LINE
- PROPOSED ACCESSWAY
- N85 BOUNDARY LINE

NOTES:

- 1) AREAS AND DIMENSIONS SHOWN ARE APPROXIMATE AND VARY UPON COMPLETION OF FINAL SURVEY
- 2) OTHER EASEMENTS TO BE CREATED WHERE NECESSARY
- 3) THERE ARE NO LOT 5 AND 22 ON THIS PLAN

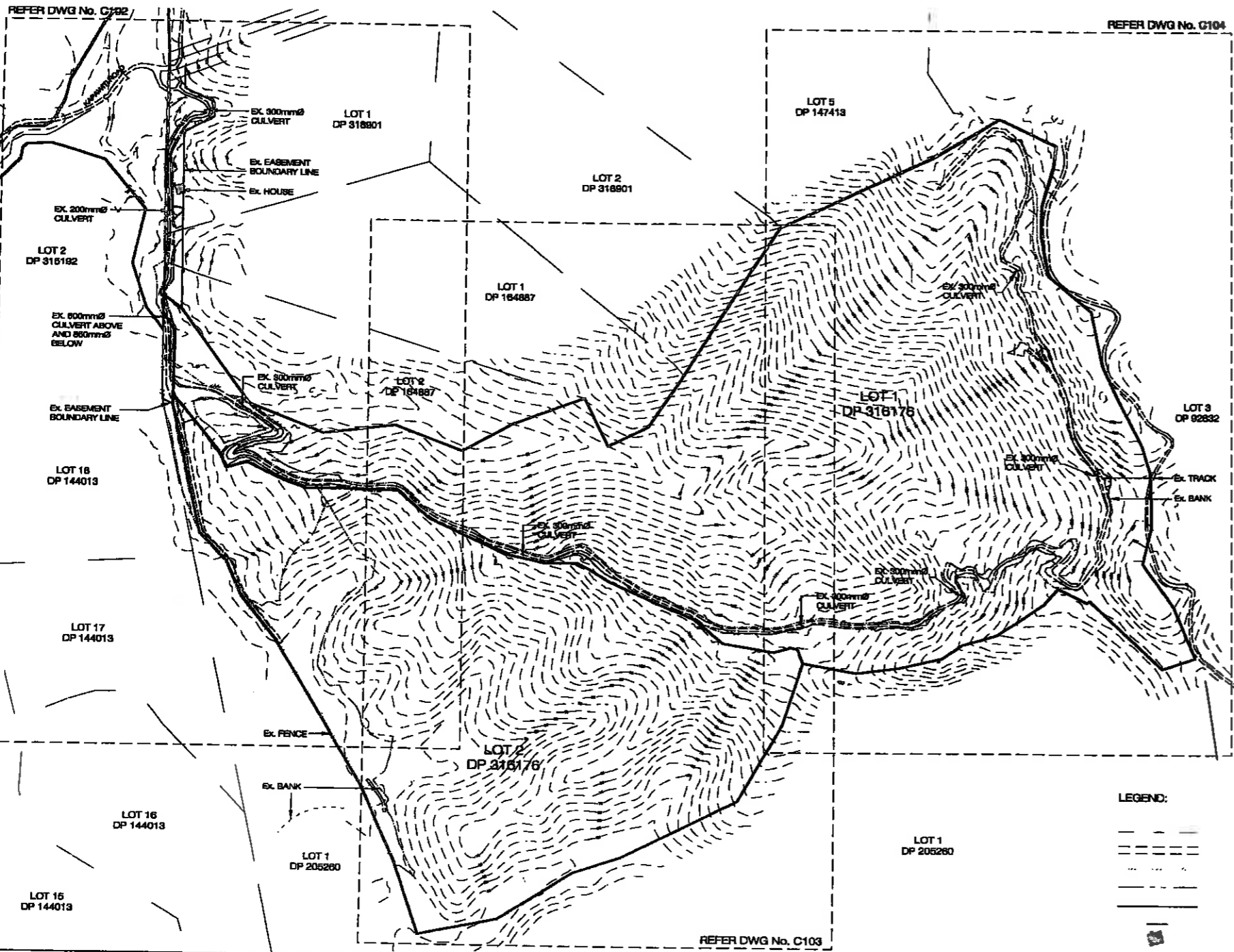
STAGE:

- STAGE 1
- STAGE 2
- STAGE 3
- STAGE 4
- STAGE 5
- STAGE 6
- STAGE 7

AMENDMENT		CHECKED	DATE	NAME	DATE	PROJECT CONSULTANT	CUSTOMER	TITLE	SCALE @ A1	SCALE @ A3		
ISSUE FOR RESOURCE CONSENT		CJK	22/09/08	SURVEYED		 16/2 Glenview Road, Glenview Auckland P.O. Box 5175 Waterloo Street, Auckland Ph 09 477 7800 Fax 09 479 7577	MANGAWHAI HEADS HOLDINGS LTD	STAGING PLAN	1:2000	1:4000		
				DESIGNED	CJK		22/09/08		PROJECT No.	23219	CAD FILE	HP/Project/Resource Consent/Resource Plan/
				DRAWN	MSA		22/09/08		DWG No.	C100.1	HP/Project/Resource Consent/Resource Plan/	Drawn: [Name]
				TRACKED					REV			
				CHECKED	G.C.	22/09/08						

REFER DWG No. C102

REFER DWG No. C104



LEGEND:

- EXISTING BANK
- EXISTING TRACK
- EXISTING FENCES
- EXISTING DRAIN
- EXISTING EASEMENT
- EXISTING CULVERT
- EXISTING HOUSE

REFER DWG No. C103

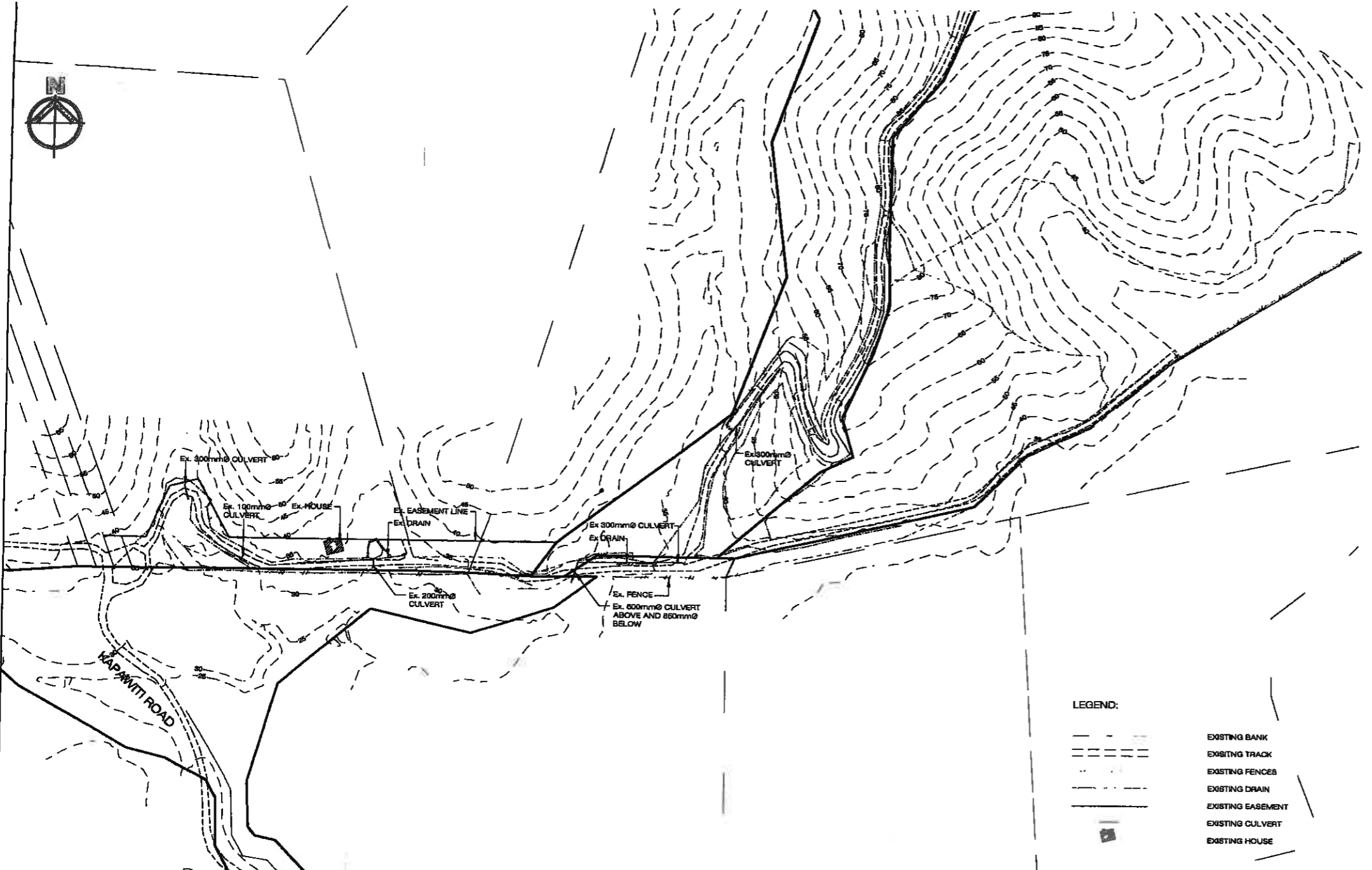
REV	AMENDMENT	CHECKED	DATE	SURVEYED	NAME	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	DESIGNED	A.K	28/06/08
				DRAWN	SP	28/06/08
				TRACED		
				CHECKED	G.T	28/06/08

CONSULTANTS
CONSULTANTS LTD
 (DATAFORM House Limited)
 180 Okeana Road, Okeana, Auckland
 P.O. Box 9188, Wellesley Street, Auckland
 Tel: 09 820 7100 Fax: 09 820 7101

CLIENT: MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI

TITLE: EXISTING TOPOGRAPHICAL PLAN
 LOT 1 & 2 DP 316176 (47.4 Ha)

SCALE OF PLAN: 1:2000	SCALE OF AS: 1:4000
PROJECT NO: 23219	DATE: 28/06/08
DWG NO: C101	REV: A



LEGEND:

	EXISTING BANK
	EXISTING TRACK
	EXISTING FENCES
	EXISTING DRAIN
	EXISTING EASEMENT
	EXISTING CULVERT
	EXISTING HOUSE

REV	AMENDMENT	CHECKED	DATE	NAME	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	SURVEYED	
				DESIGNED	G.T 28/05/08
				DRAWN	S.P 28/05/08
				TRACKED	
				CHECKED	G.T 28/06/08

KEA CONSULTANTS LTD
 DATACOM House, Level 1
 187 Greatfield Road, Crofton, Auckland
 P.O. Box 3188, Redoubt Street, Auckland
 Ph 01 625 7881 Fax 01 625 7882

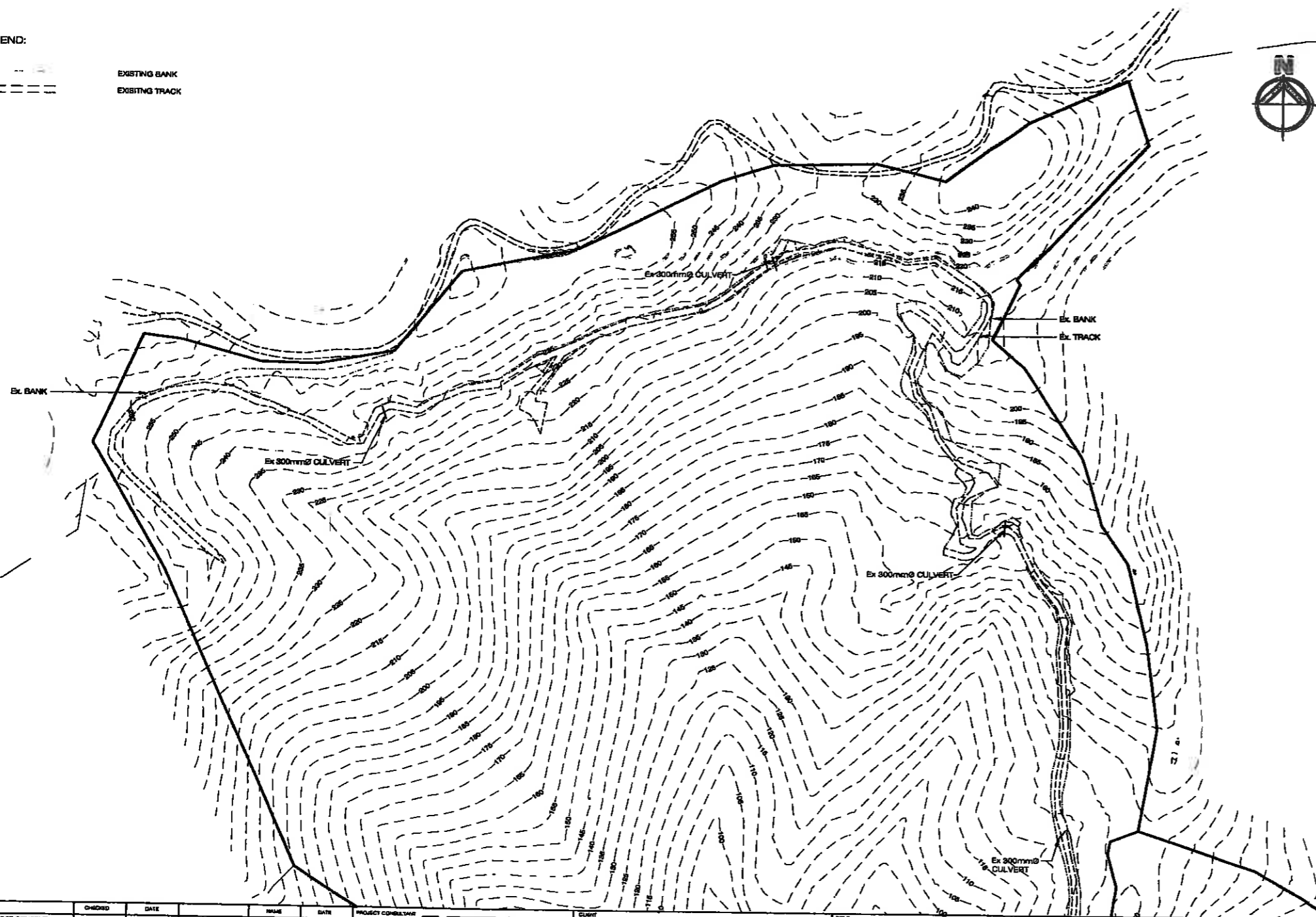
CLIENT: MANGAWHAI HEADS HOLDINGS LTD
 PROJECT CONSULTANT: KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI

TITLE: PART EXISTING TOPOGRAPHICAL
 DETAIL PLAN
 (SHEET 1 OF 3)

SCALE #1:	1:1000	SCALE #2:	1:2000
PROJECT NO:	23219	CAD FILE:	M:\Projects\23219\23219_1.dwg
DWG NO:	C102	REV:	A

LEGEND:

--- EXISTING BANK
 - - - EXISTING TRACK



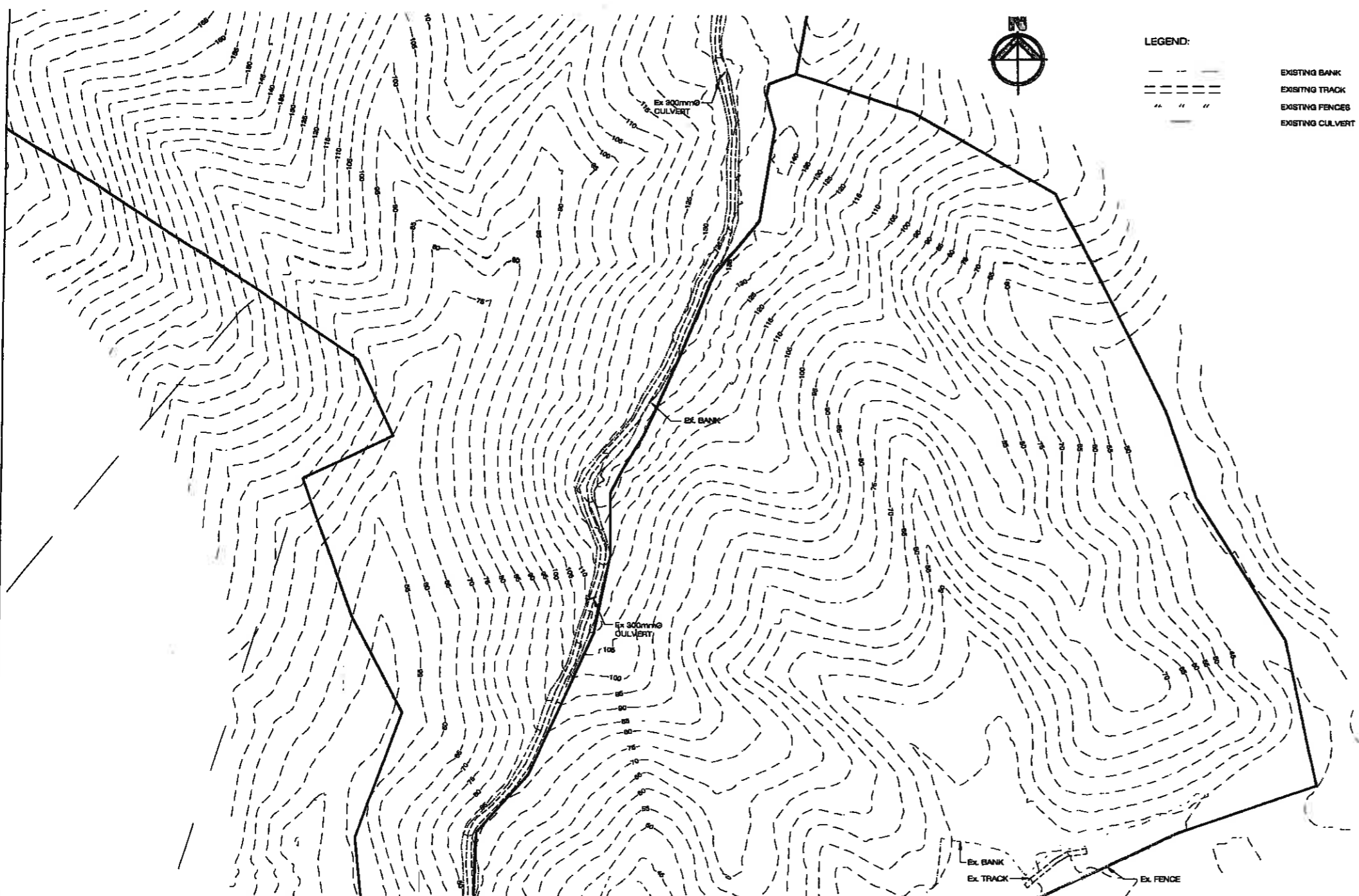
REV	AMENDMENT	CHECKED	DATE	NAME	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	SUBMITTED	C.J.K 06/07
				DESIGNED	A.K 26/06/08
				DRAWN	SP 26/06/08
				TRACKED	
				CHECKED	G.T 26/06/08

CONSULTANTS LTD
 GATACORA House, Level 3
 180 Raffles Street, Collins, Auckland
 P O Box 8185 Wellesley Street, Auckland
 Ph 04 438 7218 Fax 09 438 7887

CLIENT
MANGAWHAI HEADS HOLDINGS LTD
 PROJECT/LOCATION
**KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI**

TITLE
**PART EXISTING TOPOGRAPHICAL
 DETAIL PLAN
 (SHEET 3 OF 3)**

SCALE PLAN	1:1000	SCALE # AS	1:2000
PROJECT No	23219	CAD FILE	11/Project/Resource/RC23219/Topo/Map.dwg
DWG No	C104	REV	A



LEGEND:

---	EXISTING BANK
---	EXISTING TRACK
---	EXISTING FENCES
---	EXISTING CULVERT

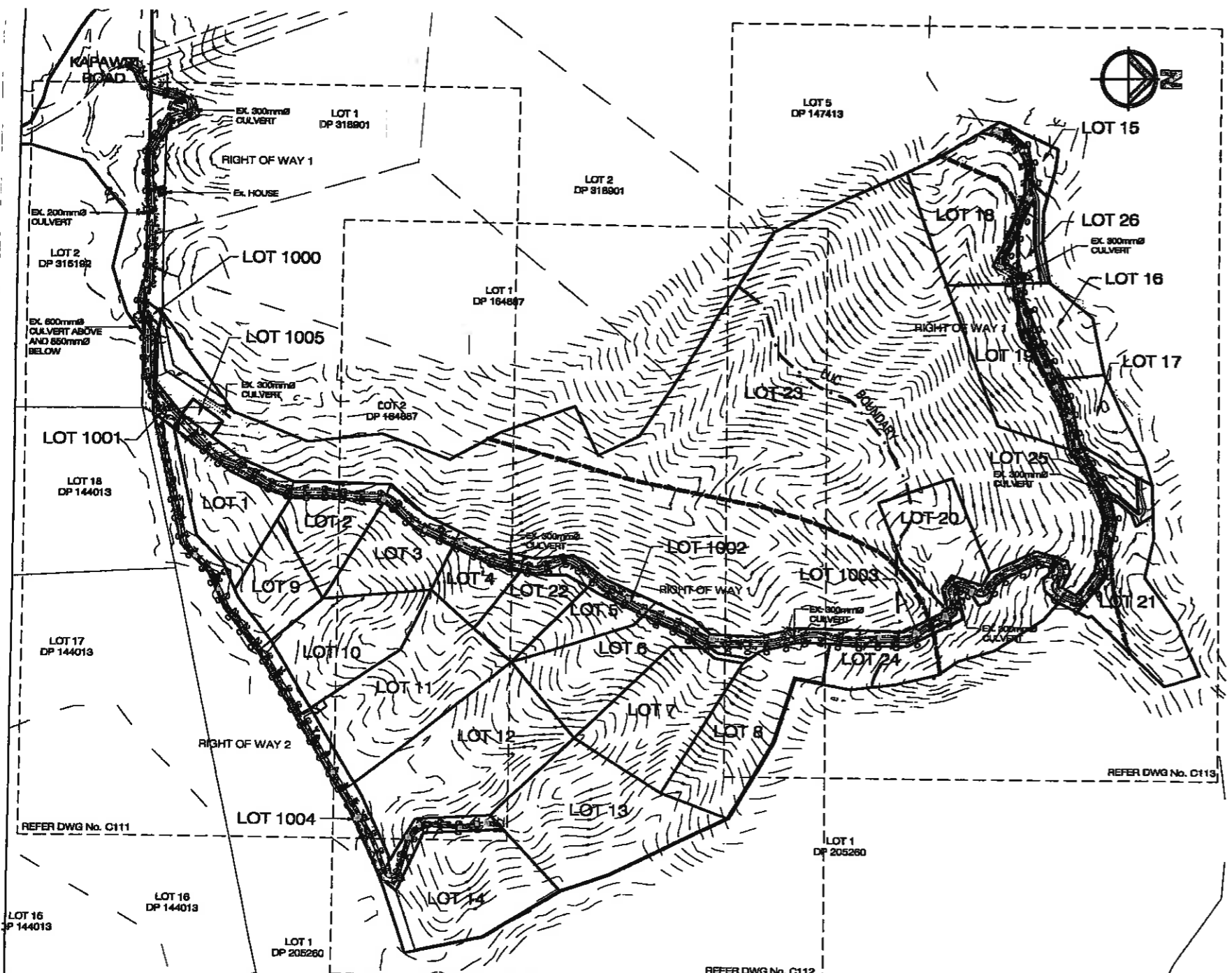
REV	AMENDMENT	CHECKED	DATE	NAME	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	SURVEYED	
				DESIGNED	28/06/08
				DRAWN	28/06/08
				TRACED	
				CHECKED	28/06/08

KEA CONSULTANTS LTD
 100 Station Road, Epsom, Auckland
 P.O. Box 2185 Wellesley Street, Auckland
 Ph 09 632 7881 Fax 09 632 7887

CLIENT: MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI

TITLE: PART EXISTING TOPOGRAPHICAL
 DETAIL PLAN
 (SHEET 2 OF 3)

SCALE OF A1	1:1000	SCALE OF A3	1:2000
PROJECT NO	23219	DATE FILED	11/09/2008
DWG NO	C103	REV	A



- LEGEND:**
- CLEAN WATER DIVERSION BUND (ARMOURIED WHEN SLOPE > 10%)
 - CUT OFF DRAIN (ARMOURIED WHEN SLOPE > 10%)
 - SILT FENCE
 - SUPER SILT FENCE
 - DECANT BUND
 - NBS BOUNDARY
 - LUO BOUNDARY

EARTHWORKS CALCULATIONS

PURPOSE	AREA (m ²)	EARTHWORKS	
		CUT	FILL
ROW 1 CH 0 - 1300	7,700	5,370	580
ROW 2 CH 0 - 726	3,300	980	290
TOTAL	11,000	6,350	850

NOTE:
 WITHIN THE NBS AREA FROM ROW 1 CH 1300 - 2100 EXISTING TRACK TO BE GRADED AND MAINTAINED.

REV	AMENDMENT	CHECKED	DATE	DRAWN	DATE
A	REQUIRED FOR RESOURCE CONSENT	A.K	17/10/08		
				SURVEYED	
				DESIGNED	28/06/08
				DRAWN	28/06/08
				TRACED	
				CHECKED	28/06/08



PROJECT CONSULTANT
KEA CONSULTANTS LTD.
 189 Griffin Road, Grafton, Auckland
 P.O. Box 91584, Victoria Street, Auckland
 Phone: 09 420 7888
 Fax: 09 420 7887

CLIENT
MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION
**KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI**

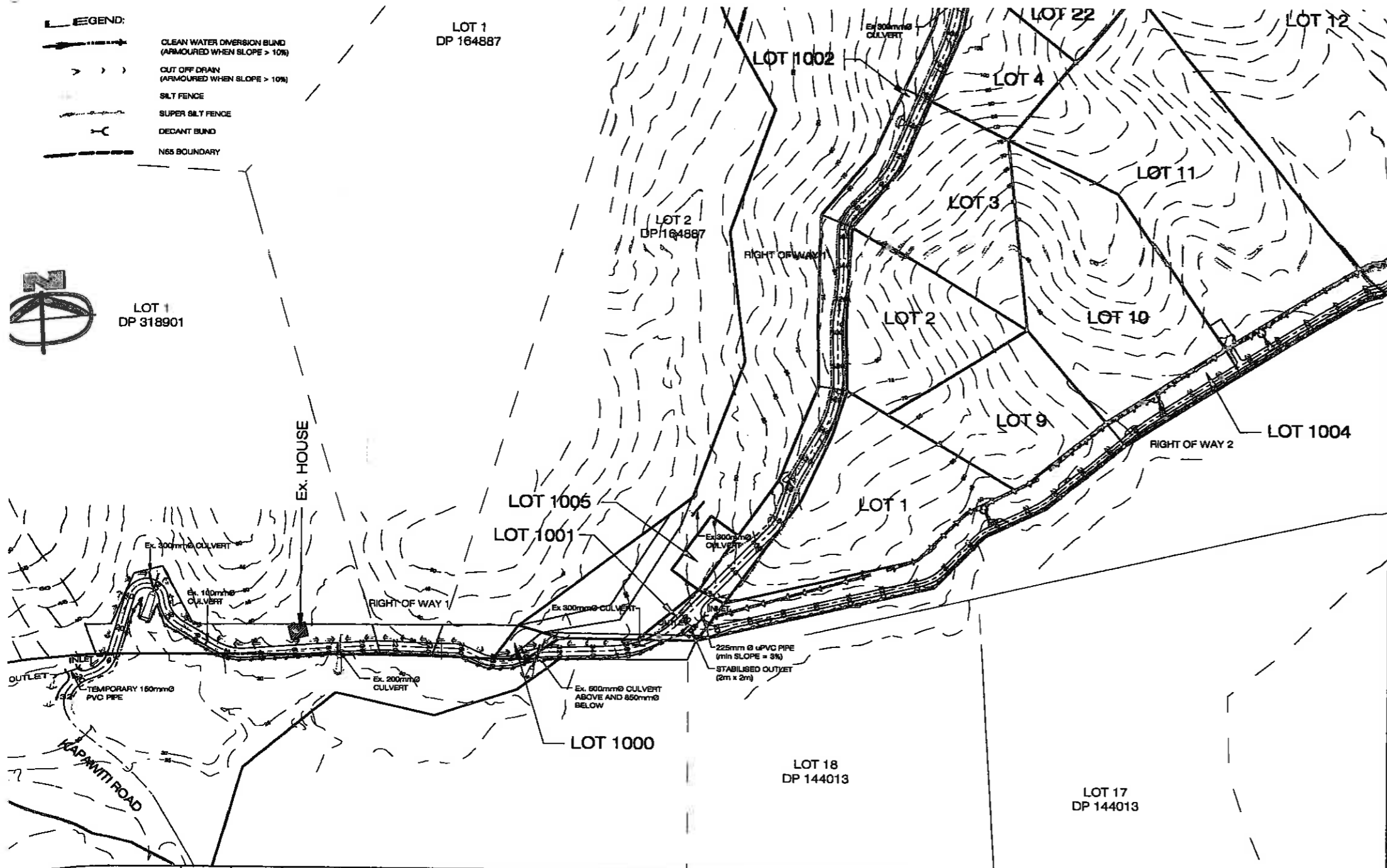
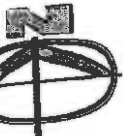
TITLE
EARTHWORKS AND SEDIMENT CONTROL PLAN

SCALE DRAWING: 1:2000
 SCALE PLAN: 1:4000

PROJECT NO: 23219
 DWG NO: C110

DATE: 17/10/08
 REV: A

- LEGEND:**
- CLEAN WATER DIVERSION BUND (ARMOURED WHEN SLOPE > 10%)
 - CUT OFF DRAIN (ARMOURED WHEN SLOPE > 10%)
 - SILT FENCE
 - SUPER SILT FENCE
 - DECANT BUND
 - N65 BOUNDARY



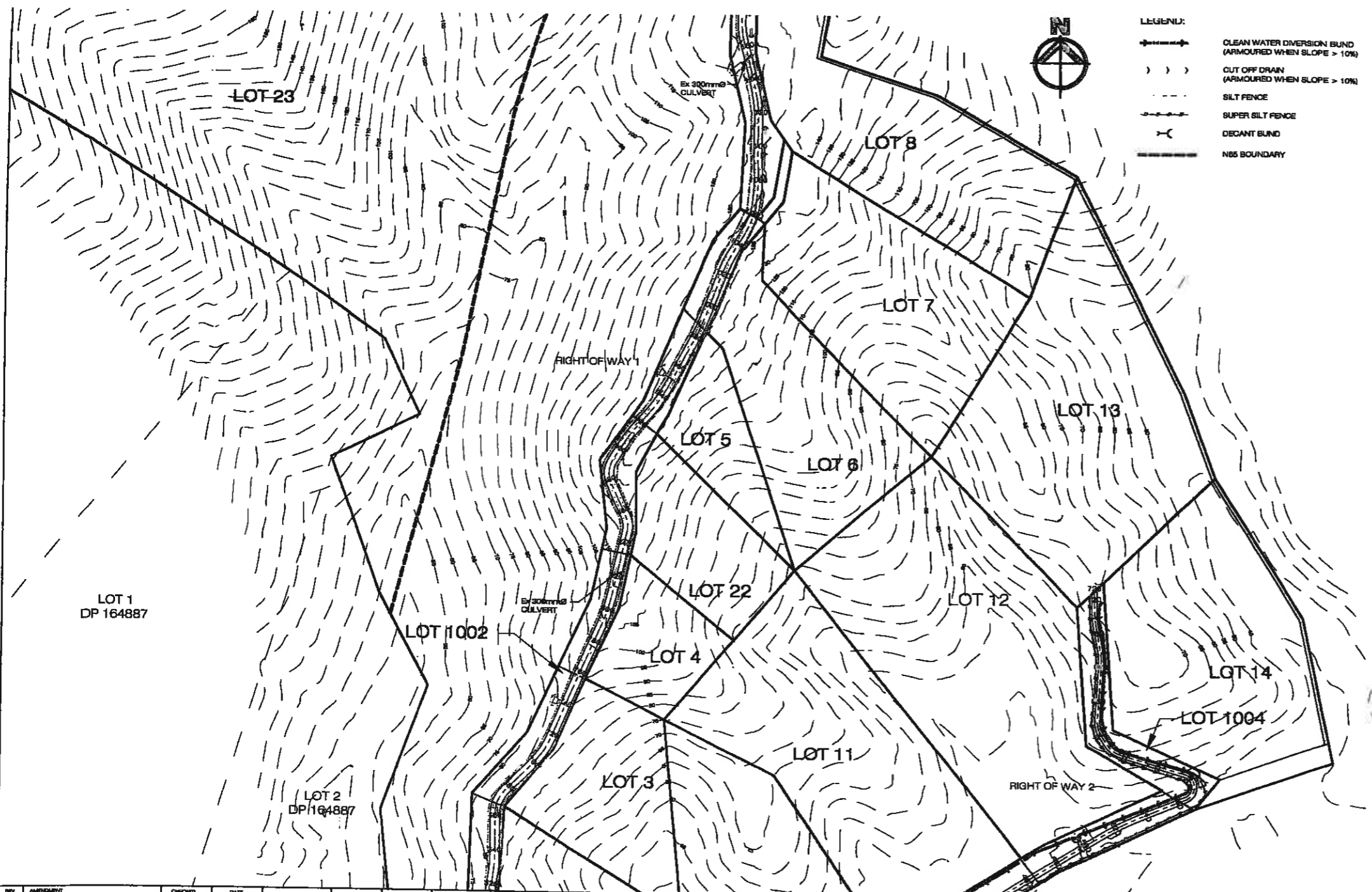
REV	REVISION/COMMENT	CHECKED	DATE	SURVEYED	NAME	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	DESIGNED	A.K	28/06/08
				DRAWN	SP	28/06/08
				TRACED		
				CHECKED	G.T	28/06/08

CONSULTANTS LTD.
 54/55/56/57/58/59/60/61/62/63/64/65/66/67/68/69/70/71/72/73/74/75/76/77/78/79/80/81/82/83/84/85/86/87/88/89/90/91/92/93/94/95/96/97/98/99/100
 110 Gordon Road, Otara, Auckland
 P.O. Box 2587, Torbay Street, Auckland
 Ph: 011 832 7942 Fax: 011 832 7947

CLIENT: MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION, KAPAWITI RD, MANGAWHAI

TITLE: PART EARTHWORKS AND SEDIMENT CONTROL
 DETAIL PLAN (SHEET 1 OF 3)

SCALE #1:	1:1000	SCALE #2:	1:2000
PROJECT No:	23219	DWG FILE:	M:\Projects\23219\23219_Plan-GRN & SC
DWG No:	C111	REV:	A



- LEGEND:**
- CLEAN WATER DIVERSION BUND (ARMoured WHEN SLOPE > 10%)
 - CUT OFF DRAIN (ARMoured WHEN SLOPE > 10%)
 - SILT FENCE
 - SUPER SILT FENCE
 - DECANT BUND
 - NBS BOUNDARY

REV	AMENDMENT	CHECKED	DATE	DESIGNED	DRAWN	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	SP	GP	28/08/08
				TRACED		
				CHECKED	G.T	28/08/08

CONSULTANTS

KE CONSULTANTS








141 TACAPU ROAD, LEVEL 3
 149 SHAW ROAD, DUNEDIN, AUCKLAND
 P.O. Box 1188, Victoria Street, Auckland
 Phone 021 782 782 Fax 09 337 7877

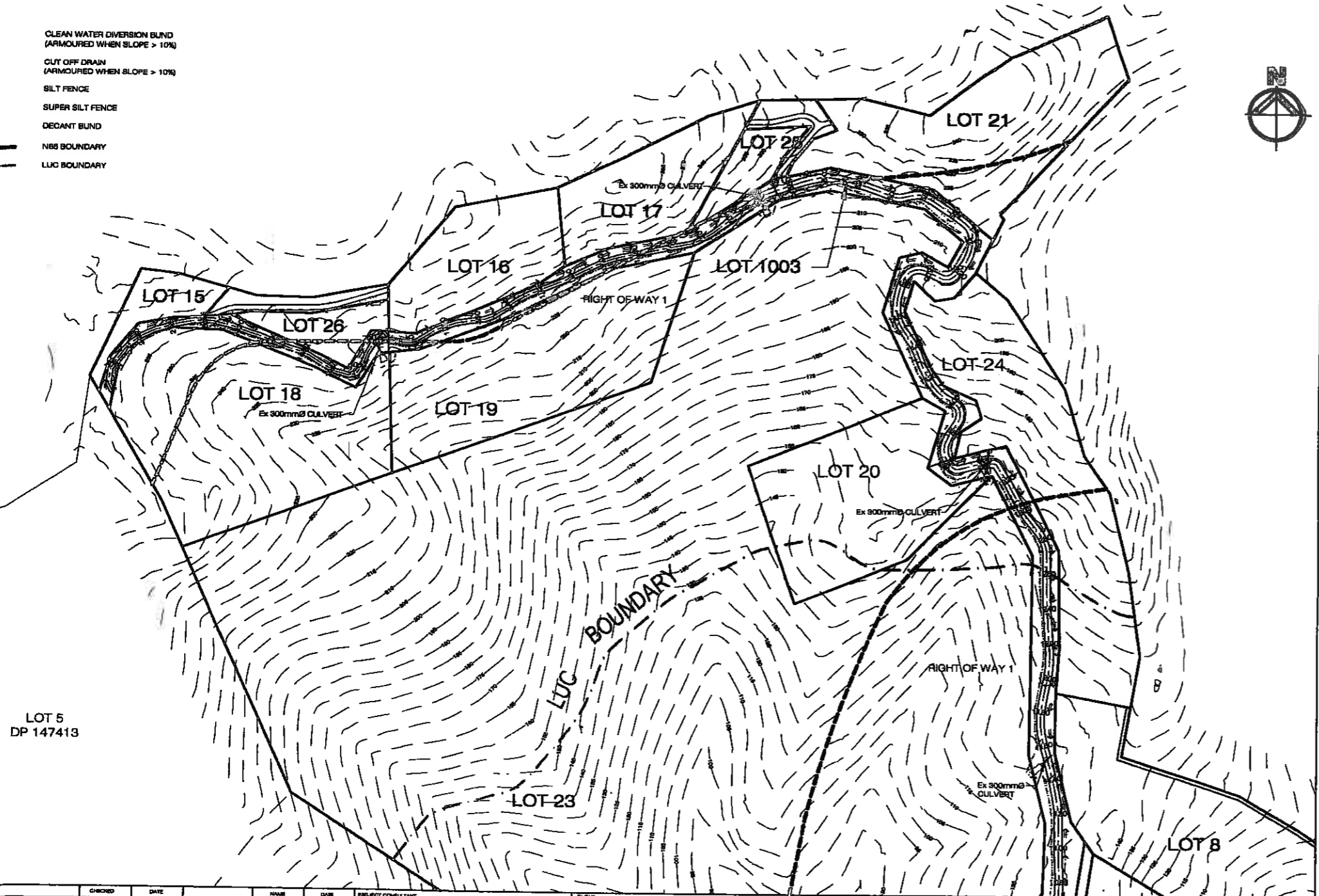
CLIENT: MANGAWHAI HEADS HOLDINGS LTD

PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI

TITLE: PART EARTHWORKS AND SEDIMENT CONTROL
 DETAIL PLAN
 (SHEET 2 OF 3)

SCALE @ A1	SCALE @ A2
1:1000	1:2000
PROJECT No: 23219	DWG FILE: H:\Projects\23219\23219_02.dwg
DWG No: C112	REV: A

- GEN :
-  CLEAN WATER DIVERSION BUND (ARMoured WHEN SLOPE > 10%)
 -  CUT OFF DRAIN (ARMoured WHEN SLOPE > 10%)
 -  SILT FENCE
 -  SUPER SILT FENCE
 -  DECANT BUND
 -  NBS BOUNDARY
 -  LUC BOUNDARY



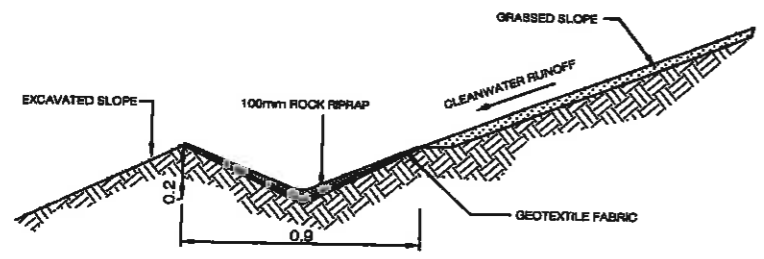
REV	AMENDMENT	CHECKED	DATE	BY	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	SURVEYED	
				DESIGNED	28/06/08
				DRAWN	28/06/08
				TRACED	
				CHECKED	28/06/08

KEA CONSULTANTS LTD.
 CONSULTANTS
 187 Grattan Road, Grattan, Auckland
 P.O. Box 3125, Wellesley Street, Auckland
 Ph 09 830 7888 Fax 09 830 7887

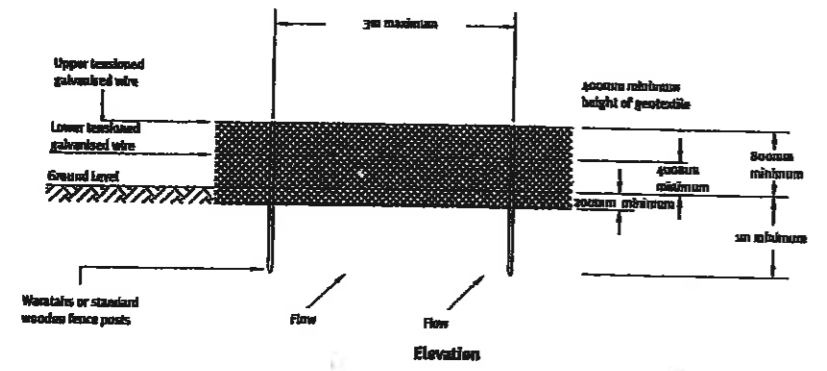
CLIENT: MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI

TITLE: PART EARTHWORKS AND SEDIMENT CONTROL
 DETAIL PLAN
 (SHEET 3 OF 3)

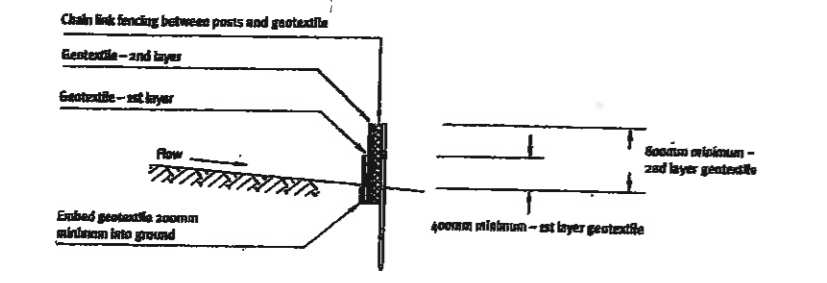
SCALE # A1	1:1000	SCALE # A2	1:2000
PROJECT #	23219	CAD FILE	H:\Projects\23219\23219.dwg
DWG NO	C113	REV	A



TYPICAL ARMURED CUTOFF DRAIN
SCALE 1:100 (A1), 1:200(A3)

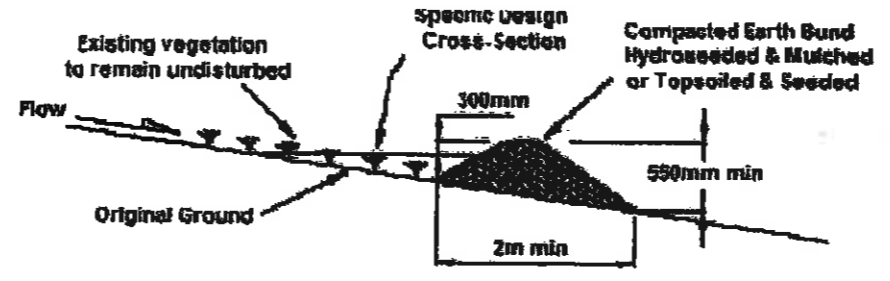


Elevation

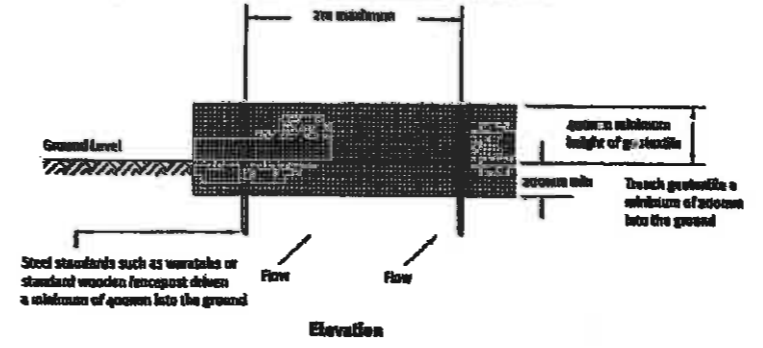


Cross Section

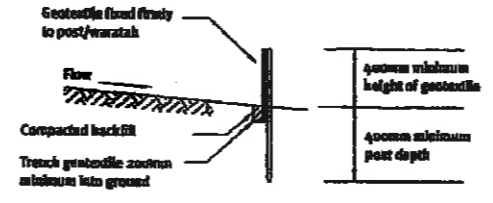
SUPER SILT FENCE
(Source: Erosion & Sediment Control, TP90, arc 1999)



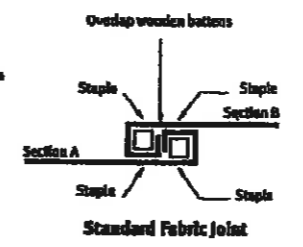
CLEANWATER RUNOFF DIVERSION BUND
(Source: Erosion & Sediment Control, TP90, arc 1999)



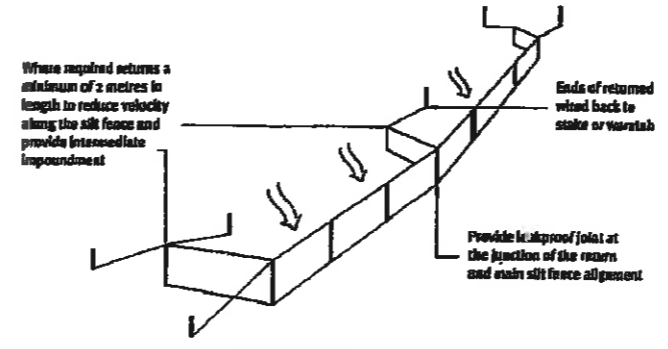
Elevation



Cross Section



Standard Fabric Joint



Perspective View
SILT FENCE

(Source: Erosion & Sediment Control, TP90, arc 1999)

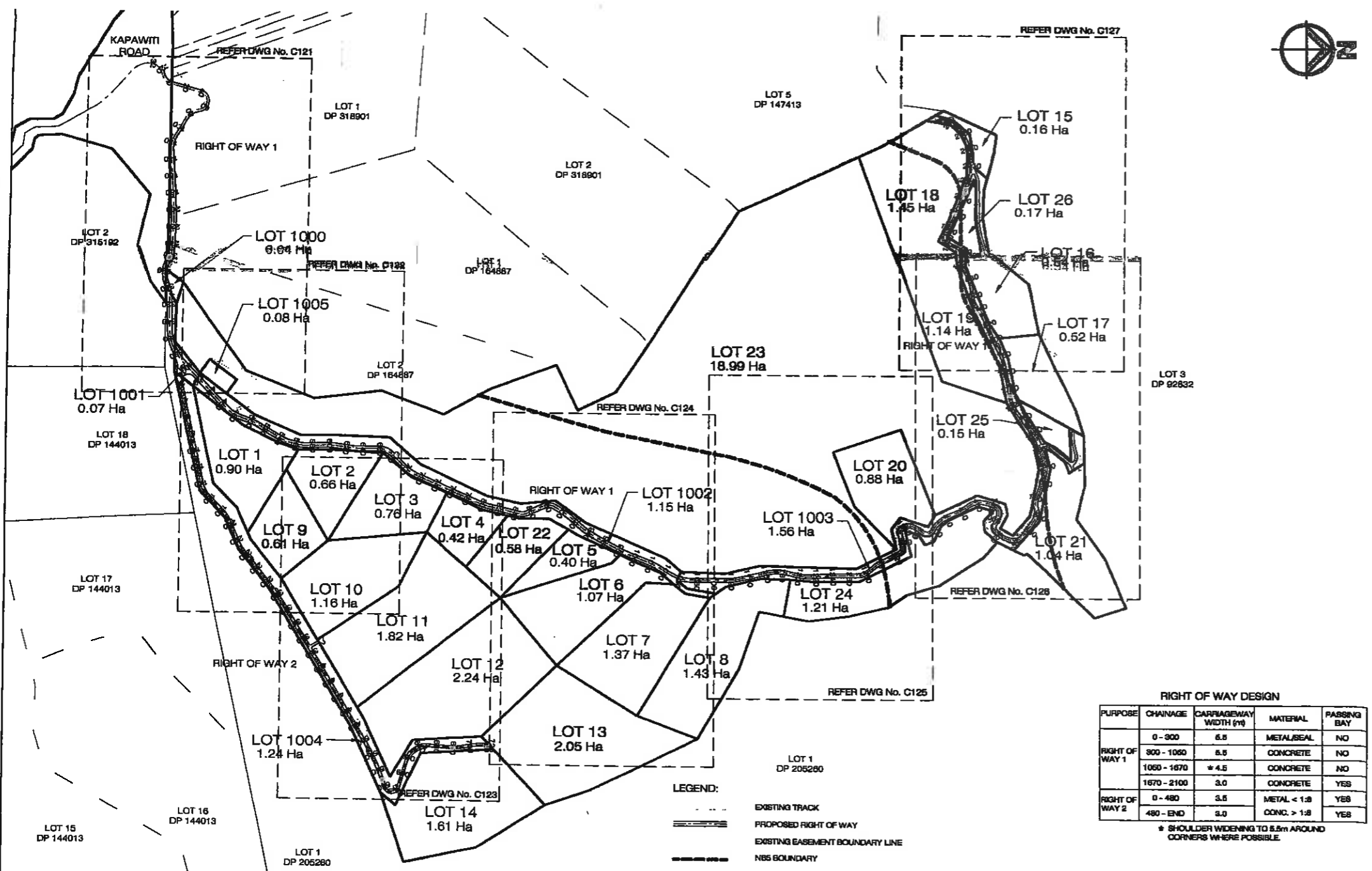
REV	AMENDMENT	CHECKED	DATE	DRAWN	DATE	PROJECT CONSULTANT
A	ISSUED FOR RESOURCE CONSENT	A.K	17/1/08	SURVEYED		
				DESIGNED	A.K	28/06/08
				DRAWN	SP	28/08/08
				TRACED		
				CHECKED	G.T	28/08/08



CLIENT	MANGAWHAI HEADS HOLDINGS LTD
PROJECT LOCATION	KAPAWITI ROAD SUBDIVISION KAPAWITI RD, MANGAWHAI

TITLE	SEDIMENT CONTROL DEVICES
-------	--------------------------

SCALE 1:10	N.T.S	SCALE 1:20	N.T.S
PROJECT NO	23219	CAD FILE	11/Project/tp90/tp90_01.dwg
DWG NO	C114	REV	A



RIGHT OF WAY DESIGN

PURPOSE	CHAINAGE	CARRIAGEWAY WIDTH (m)	MATERIAL	PASSING BAY
RIGHT OF WAY 1	0 - 300	5.5	METAL/SEAL	NO
	300 - 1050	5.5	CONCRETE	NO
	1050 - 1670	± 4.5	CONCRETE	NO
RIGHT OF WAY 2	1670 - 2100	3.0	CONCRETE	YES
	0 - 480	3.5	METAL < 1:8	YES
	480 - END	3.0	CONC. > 1:8	YES

* SHOULDER WIDENING TO 5.5m AROUND CORNERS WHERE POSSIBLE.

- LEGEND:**
- EXISTING TRACK
 - PROPOSED RIGHT OF WAY
 - EXISTING EASEMENT BOUNDARY LINE
 - NBS BOUNDARY

REV	REVISION	CHECKED	DATE	DESIGNED	DRAWN	DATE
A	ISSUED FOR RESOURCE CONSENT	AJK	17/10/08	GT	GT	28/06/08
				GT	SP	28/08/08
				GT	GT	28/06/08

KEA CONSULTANTS LTD
 CONSULTANTS LTD
 100 Gairloch Road, Gairloch, Auckland
 P.O. Box 5185, Waikaraka Road, Auckland
 PH 09 835 7955 FAX 09 835 7957

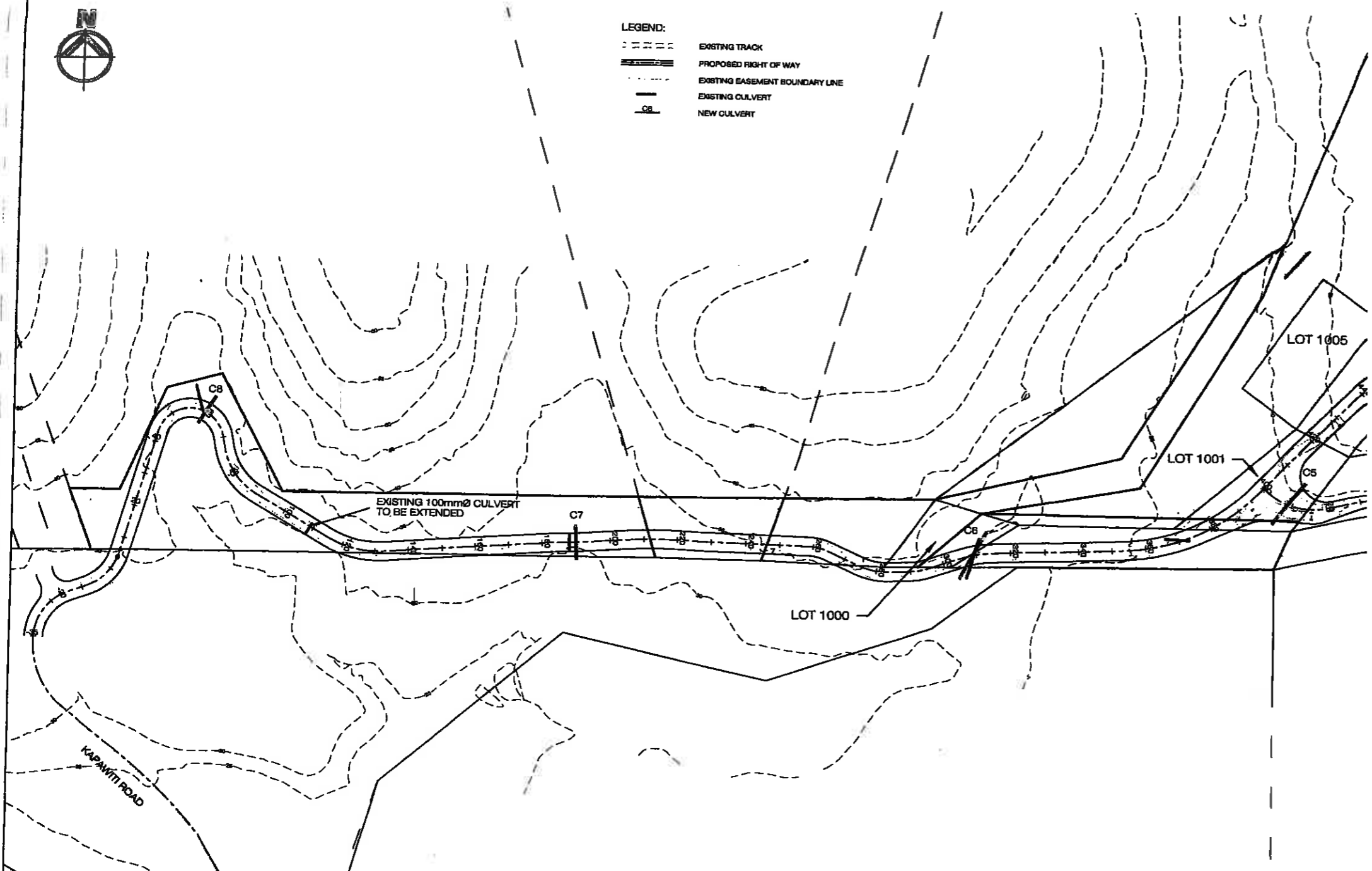
CLIENT: MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION, KAPAWITI RD, MANGAWHAI

TITLE: RIGHT OF WAY LAYOUT PLAN

SCALE # A1	1:2000	SCALE # A2	1:4000
PROJECT NO.	23219	DWG NO.	C120
		REV	A



- LEGEND:**
- EXISTING TRACK
 - ==== PROPOSED RIGHT OF WAY
 - - - - EXISTING EASEMENT BOUNDARY LINE
 - EXISTING CULVERT
 - C- NEW CULVERT



REV	AMENDMENT	DESIGNED	DATE	DRAWN	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	REVISED	
				DESIGNED	G.T 28/06/08
				DRAWN	SP 28/06/08
				TRACED	
				CHECKED	G.T 28/06/08

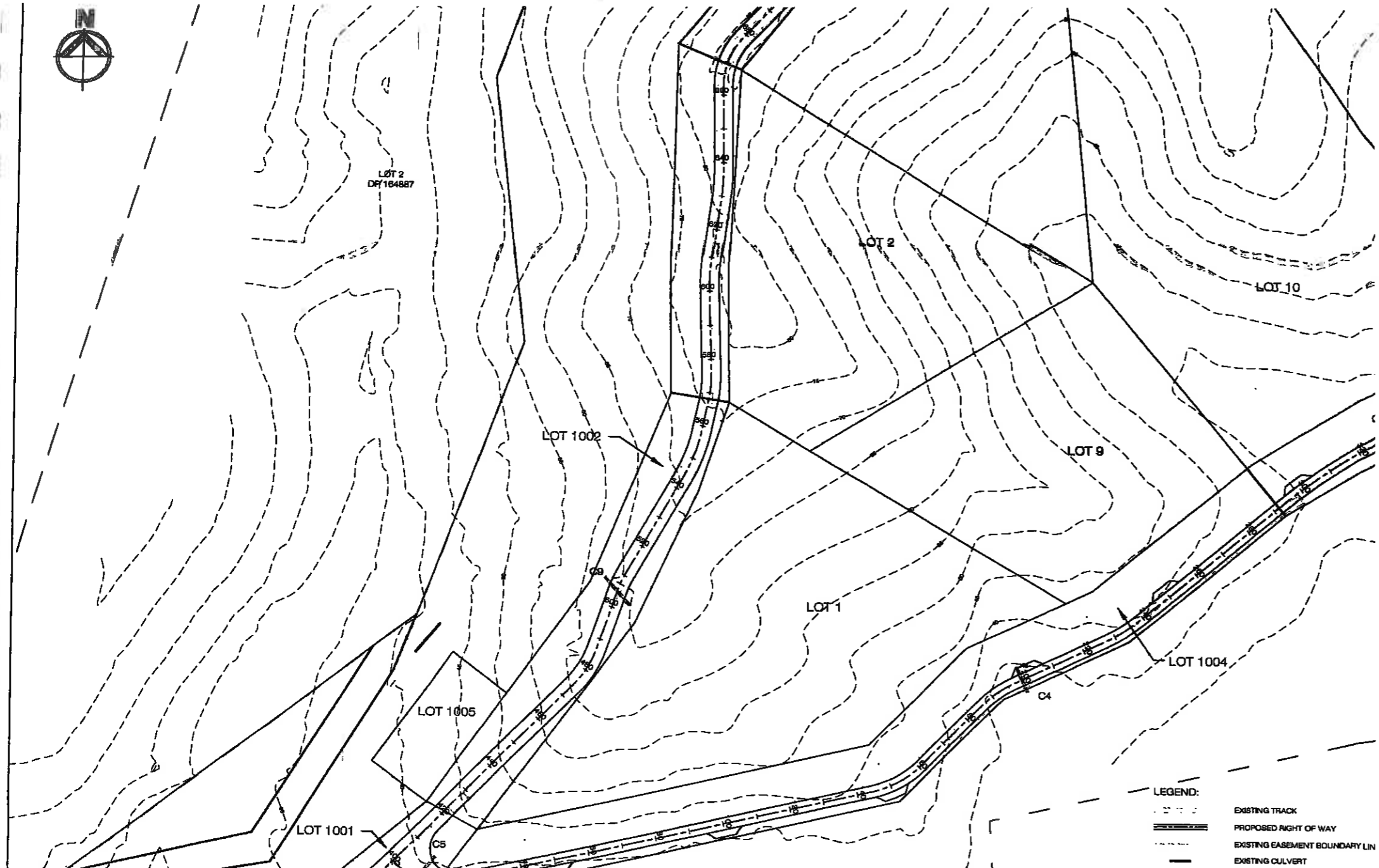
CONSULTANTS LTD
 150-152A St Albans Road, Auckland
 P.O. Box 2188, St Albans, Auckland
 Fax 94 820 2287

CLIENT
 MANGAWHAI HEADS HOLDINGS LTD

PROJECT LOCATION
 KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI

TITLE
 RIGHT OF WAY DETAIL PLAN
 (SHEET 1 OF 7)

SCALE # A1	SCALE # A3
1:500	1:1000
PROJECT NO 23219	CAD FILE N:\Projects\Kapehu\Kapehu\Kapehu\Kapehu.dwg
DWG NO C121	REV A



LEGEND:

	EXISTING TRACK
	PROPOSED RIGHT OF WAY
	EXISTING EASEMENT BOUNDARY LIN
	EXISTING CULVERT
	NEW CULVERT

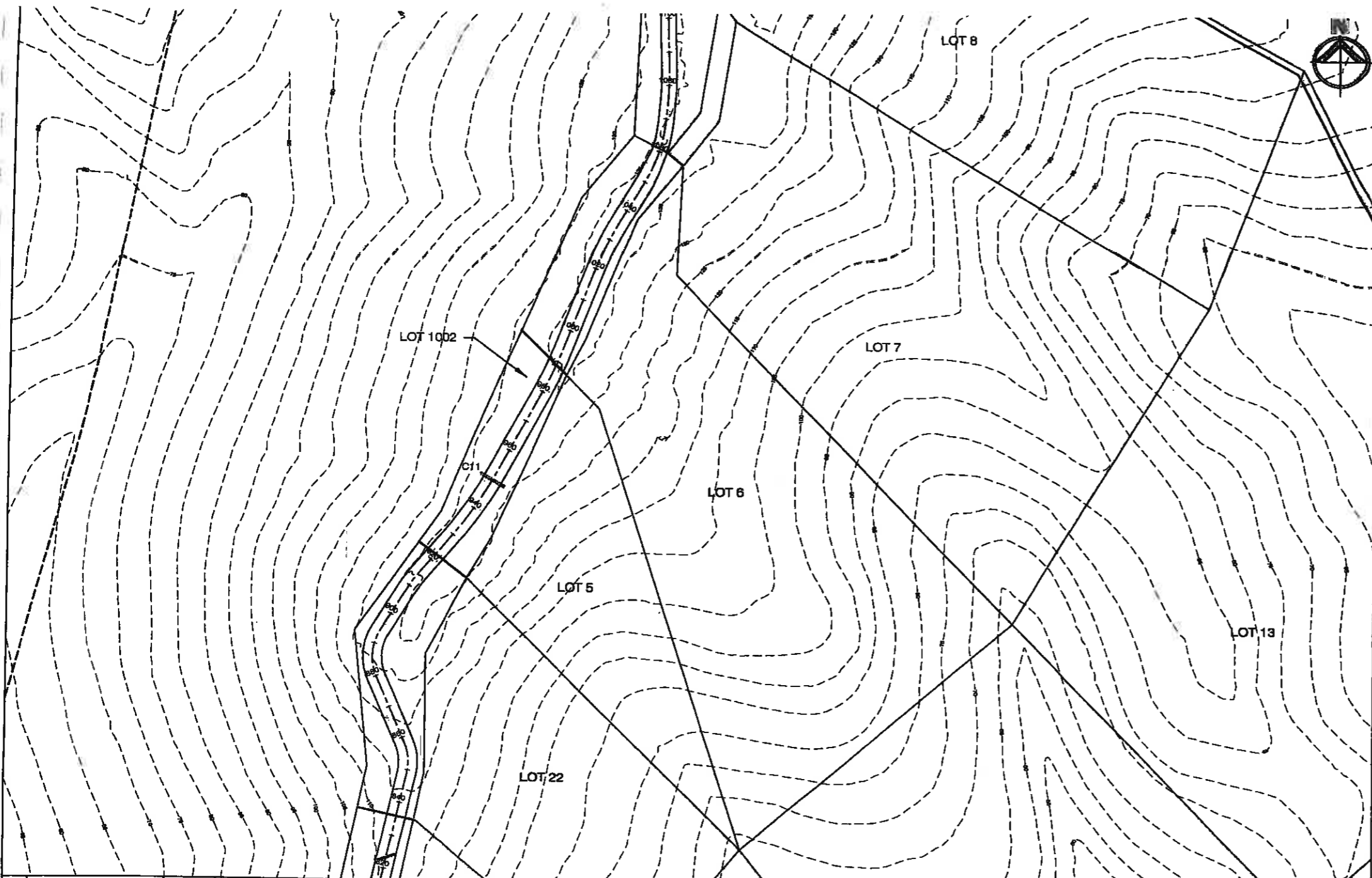
REV	AMENDMENT	CHECKED	DATE	DESIGNED	NAME	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	DESIGNED	G.T	28/08/08
				DRAWN	SP	28/08/08
				CHECKED	G.T	28/08/08

CONSULTANTS LTD
 CONSULTANTS LTD
 159 Clevedon Road, Clevedon, Auckland
 P.O. Box 1109, Wellesley Street, Auckland
 Ph 09 832 7851 Fax 09 832 7852

CLIENT: MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI

TITLE: RIGHT OF WAY DETAIL PLAN
 (SHEET 2 OF 7)

SCALE @ A1	1:500	SCALE @ A3	1:1000
PROJECT NO	28219	CAD FILE	A:\Projects\28219\28219_Road\28219_Road.dwg
DWG NO	C122	REV	A

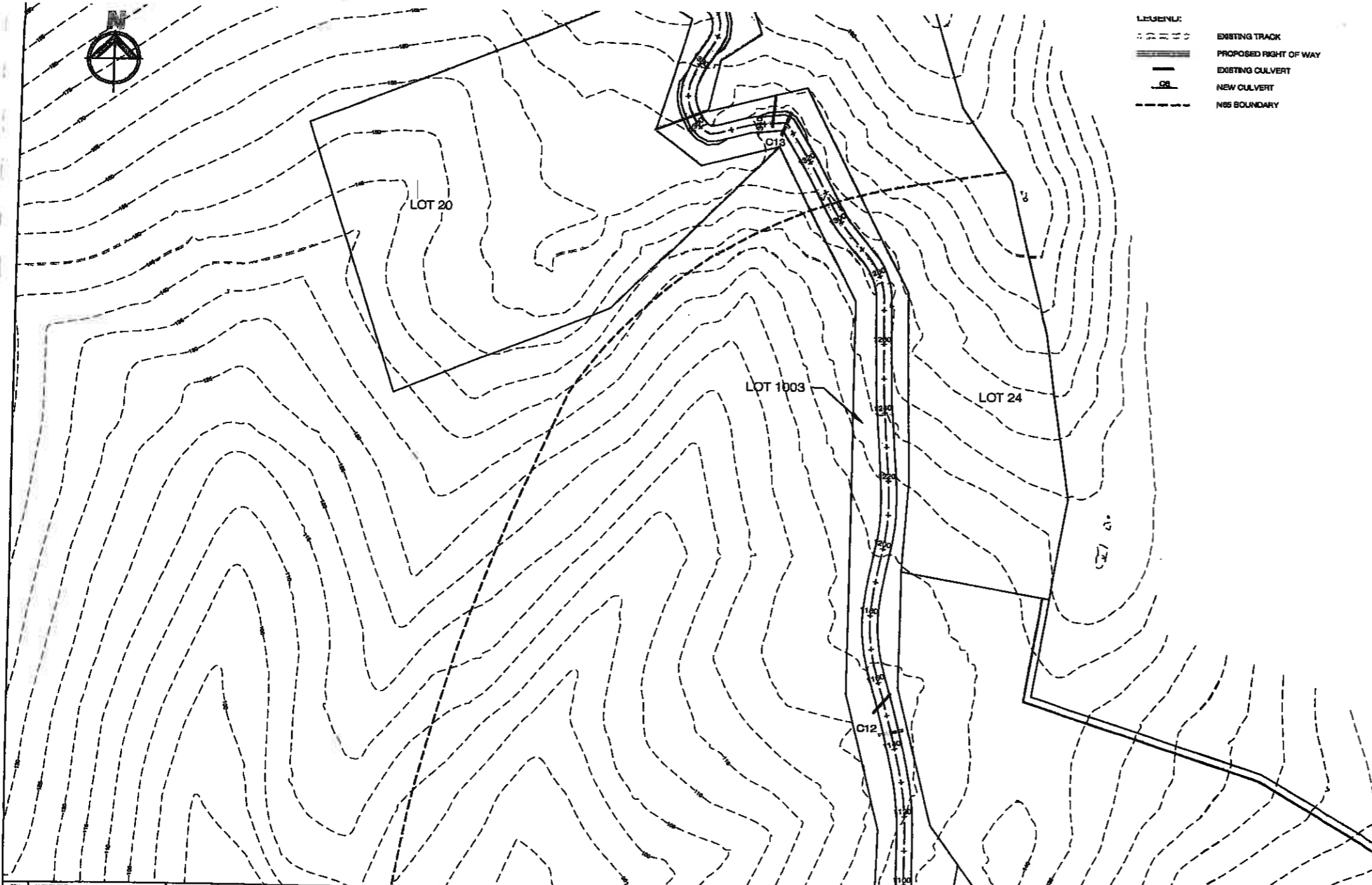


REV	AMENDMENT	DRAWN	DATE	NAME	DATE	PROJECT DOCUMENT	CLIENT	TITLE	SCALE PLAN	SCALE PLOT	GRID FILE	REV
A	ISSUED FOR RESOURCE CONSENT	AJK	17/10/08	ENGINEER			MANGAWHAI HEADS HOLDINGS LTD	RIGHT OF WAY DETAIL PLAN (SHEET 4 OF 7)	1:500	1:1000		A
				DESIGNED	G.T.							
				DRAWN	SF							
				TRACKED								
				CHECKED	G.T.							

K&E
CONSULTANTS LTD.
DATA/CAD/Maps, Level 3
180 Greatfield Road, Grafton, Auckland
P.O. Box 81381, Wellesley Street, Auckland
Ph: 09 428 7888 Fax: 09 428 7887

PROJECT DOCUMENT
MANGAWHAI HEADS HOLDINGS LTD
PROJECT LOCATION
**KAPAWITI ROAD SUBDIVISION
KAPAWITI RD, MANGAWHAI**

SCALE PLAN: 1:500
SCALE PLOT: 1:1000
PROJECT No: 23219
GRID FILE: 14 (Project/Name/Phase/Location)
Plan.dwg
DWN No: C124
REV: A



- LEGEND:**
- EXISTING TRACK
 - PROPOSED RIGHT OF WAY
 - EXISTING CULVERT
 - NEW CULVERT
 - NBS BOUNDARY

REV	AMENDMENT	CHECKED	DATE	BY	DATE
A	ISSUED FOR RESOURCE CONSENT	AJK	17/10/08		

CONSULTANTS LTD
 DATACAD
 180 Great South Road, Auckland
 P.O. Box 5138 Wellesley Street, Auckland
 Ph: 09 520 7888 Fax: 09 520 7887

CLIENT
 MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION
 KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI

TITLE
 RIGHT OF WAY DETAIL PLAN
 (SHEET 5 OF 7)

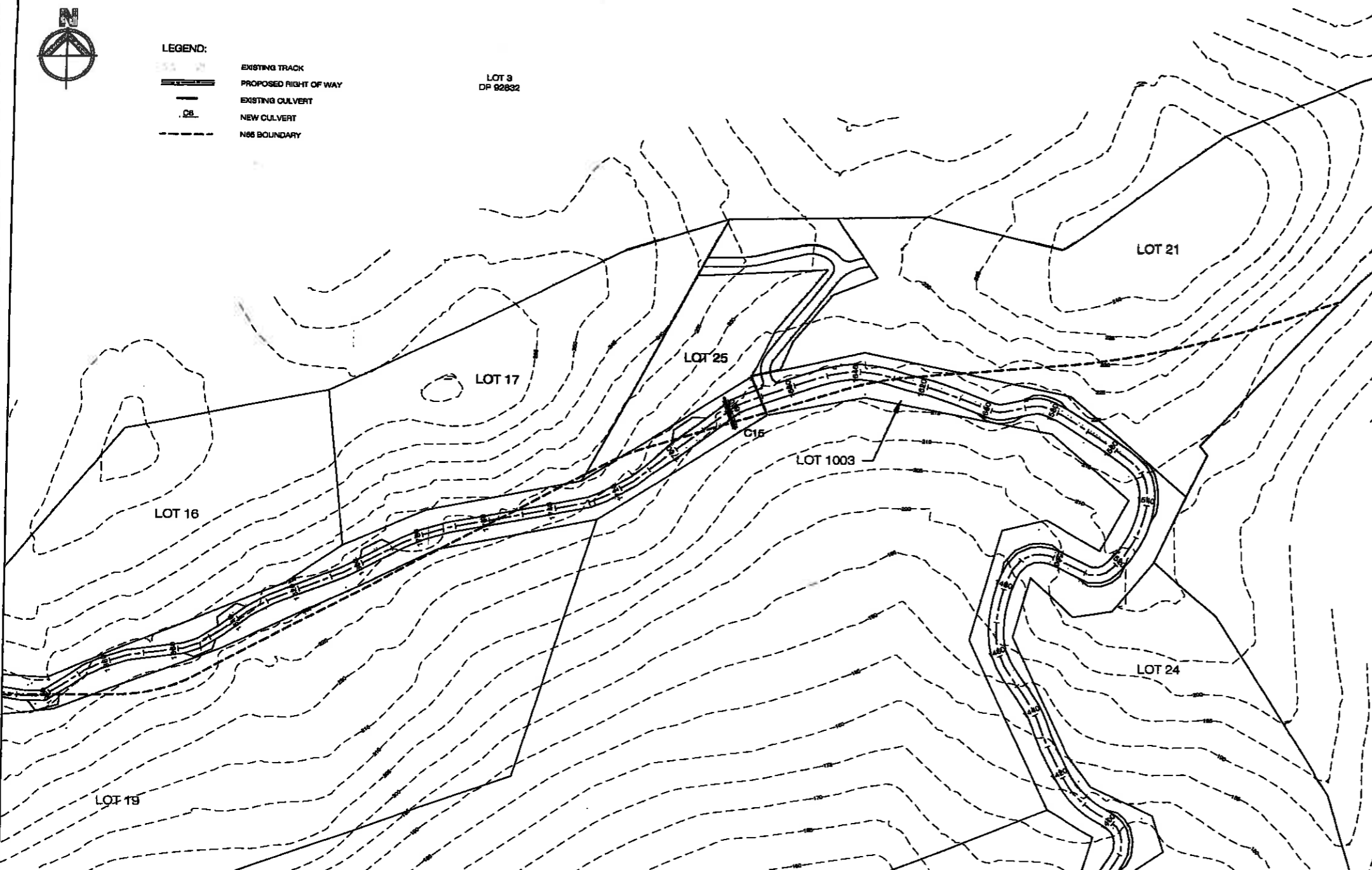
SCALE OF AS	1:500	SCALE OF AS	1:1000
PROJECT No	23219	CAD FILE	of Proposed Right of Way/Planning Plan.dwg
DWG No	C125	REV	A



LEGEND:

- EXISTING TRACK
- PROPOSED RIGHT OF WAY
- EXISTING CULVERT
- NEW CULVERT
- N86 BOUNDARY

LOT 3
DP 92832



REV	AMENDMENT	CHECKED	DATE	SURVEYED	NAME	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08			
				DESIGNED	G.T	28/06/08
				DRAWN	SP	28/06/08
				TRACED		
				CHECKED	G.T	28/06/08



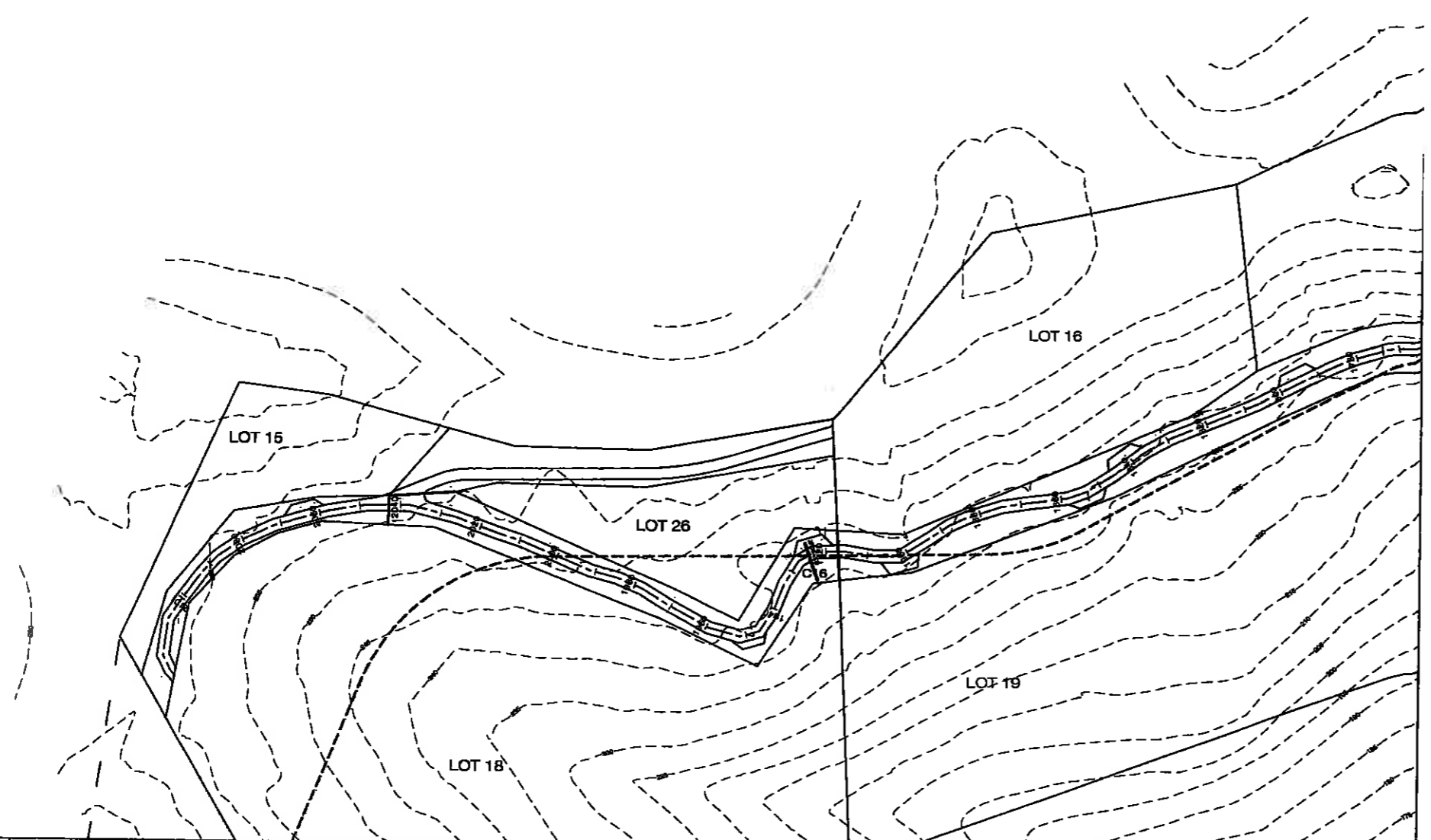
MANGAWHAI HEADS HOLDINGS LTD
PROJECT LOCATION
KAPAWITI ROAD SUBDIVISION
KAPAWITI RD, MANGAWHAI

RIGHT OF WAY DETAIL PLAN
(SHEET 6 OF 7)

SCALE OF PLAN	1:500	SCALE OF A3	1:1000
PROJECT No	23219	CAD FILE	A:\Projects\23219\Kapa\Kapa\Kapa.dwg
DWG No	C126	REV	A



	EXISTING TRACK
	PROPOSED RIGHT OF WAY
	EXISTING CULVERT
	NEW CULVERT
	NBS BOUNDARY



REV	AMENDMENT	CHECKED	DATE	BY	DATE
A	ISSUED FOR RESOURCE CONSENT	AJK	17/1/008	APPROVED	
				DRAWN	G.T. 28/06/08
				TRACED	SP. 28/05/08
				CHECKED	G.T. 28/06/08

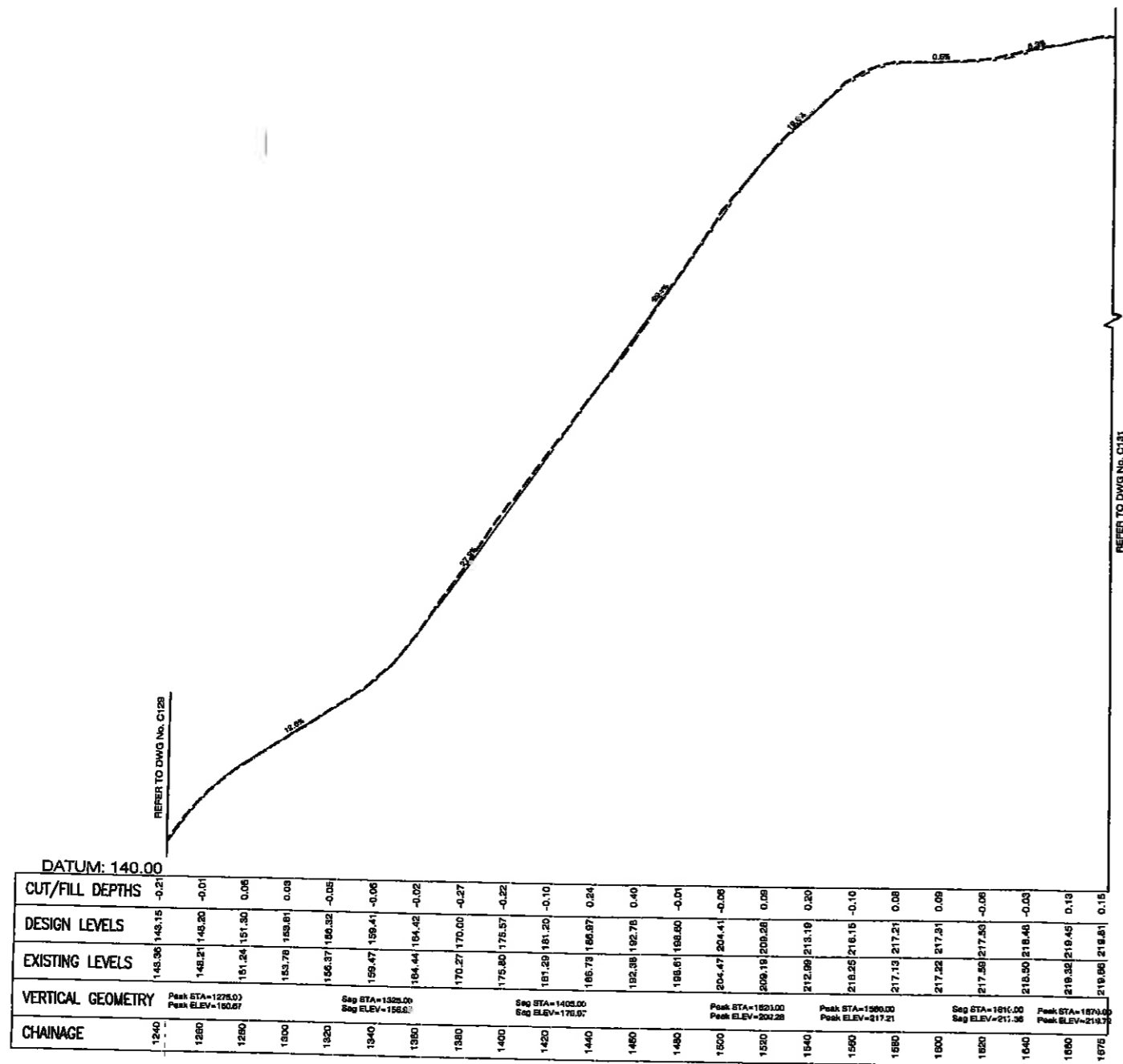


CLIENT
MANGAWHAI HEADS HOLDINGS LTD

PROJECT LOCATION
**KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI**

TITLE
**RIGHT OF WAY DETAIL PLAN
 (SHEET 7 OF 7)**

SCALE OF A1	1:500	SCALE OF A3	1:1000
PROJECT NO.	23219	CAD FILE	N:\Projects\23219\Kapea\RightofWay.dwg
DWG NO.	C127	REV	A



REFER TO DWG NO. C131

NOTE: A) Ground Level to be verified on site by engineer.
 B) Final alignment, Vertical-horizontal to be verified on site by engineer.
 C) Final access to follow existing.

RIGHT OF WAY 1: LONGSECTION

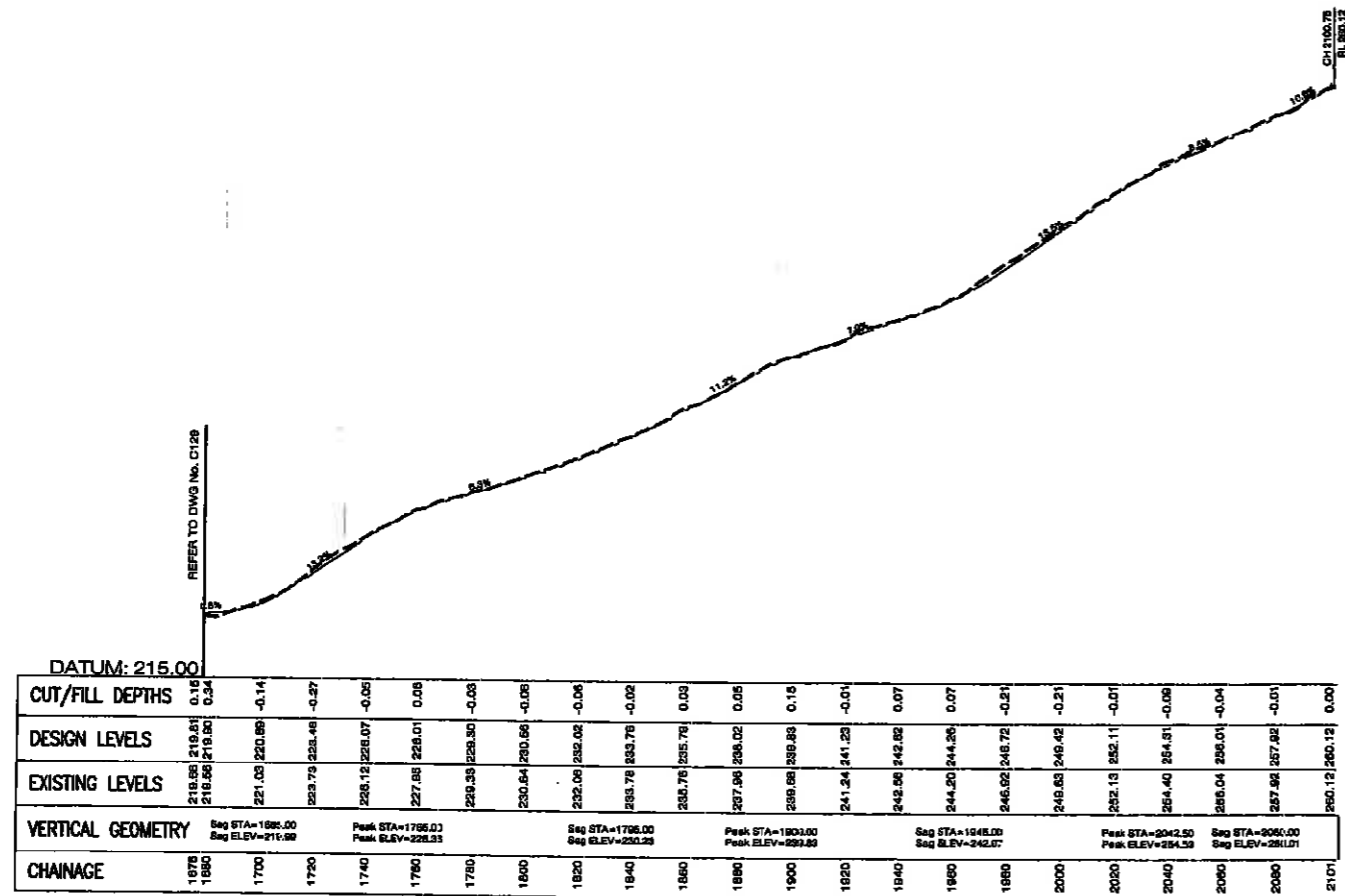
REV	AMENDMENT	CHECKED	DATE	SURVEYED	NAME	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08			
				DESIGNED	G.T	28/05/08
				DRAWN	SP	28/08/08
				TRACED		
				CHECKED	G.T	28/08/08



CLIENT: MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI

RIGHT OF WAY 1
 LONGSECTION
 (SHEET 3 OF 4)

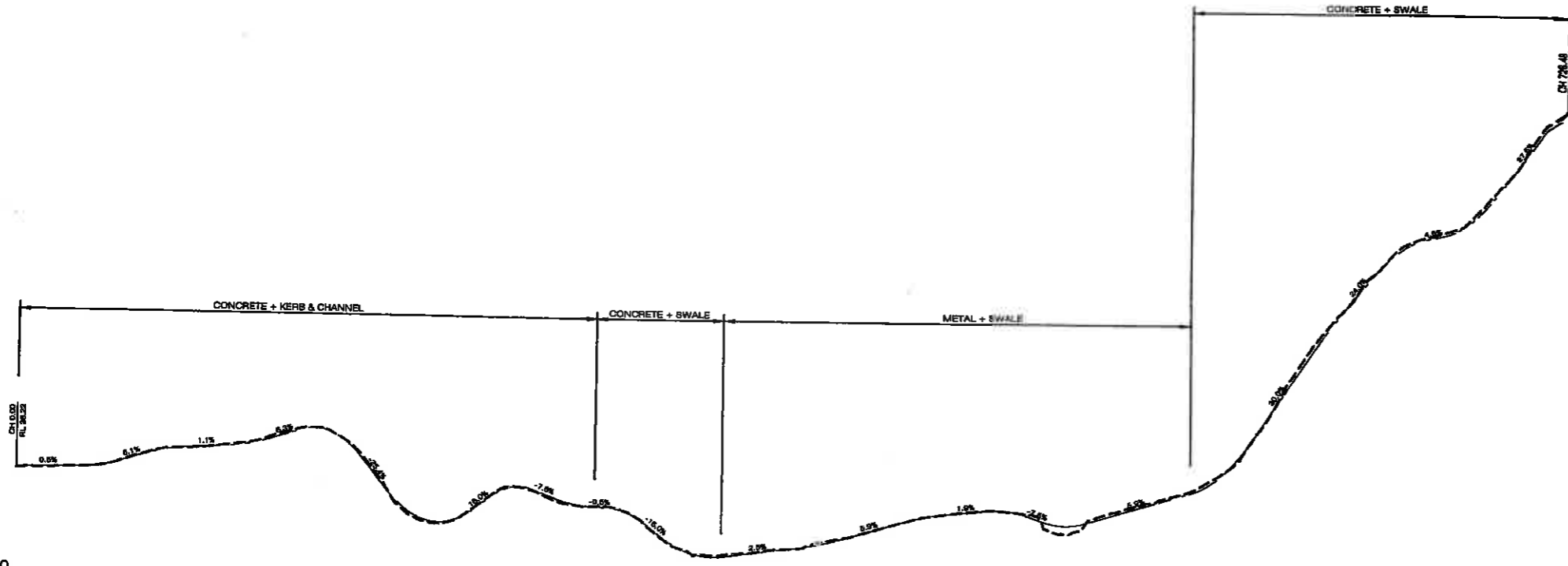
SCALE #A1	SCALE #A2	SCALE #A3	SCALE #A4
1:5000 (V)	1:1000 (H)	1:10000 (V)	1:2000 (H)
PROJECT NO: 23219		DWG FILE: M:\Projects\23219\23219_03.dwg	
DWG NO: C130		REV: A	



RIGHT OF WAY 1: LONGSECTION

NOTE: A) Ground Level to be verified on site by engineer.
 B) Final alignment, Vertical-Horizontal to be verified on site by engineer.
 C) Final access to follow existing.

BY	AMENDMENT	DRAWN	DATE	APPROVED	DATE	PROJECT CONSULTANT	CUSTOMER	TITLE	SCALE # A1	SCALE # A3
A	ISSUED FOR PERMIT SOURCE COMMENT	A.K	17/10/08	APPROVED		KEA CONSULTANTS LTD.	MANGAWHAI HEADS HOLDINGS LTD	RIGHT OF WAY 1 LONGSECTION (SHEET 4 OF 4)	1:6000 (V) 1:1000 (H)	1:1000 (V) 1:2000 (H)
				DESIGNED	G.T				PROJECT No	CAD FILE
				DRAWN	SP				23219	H:\Project\Wairarapa\Right of Way\Right of Way.dwg
				TRACED					DWG No	Rev
				CHECKED	G.T				C131	A

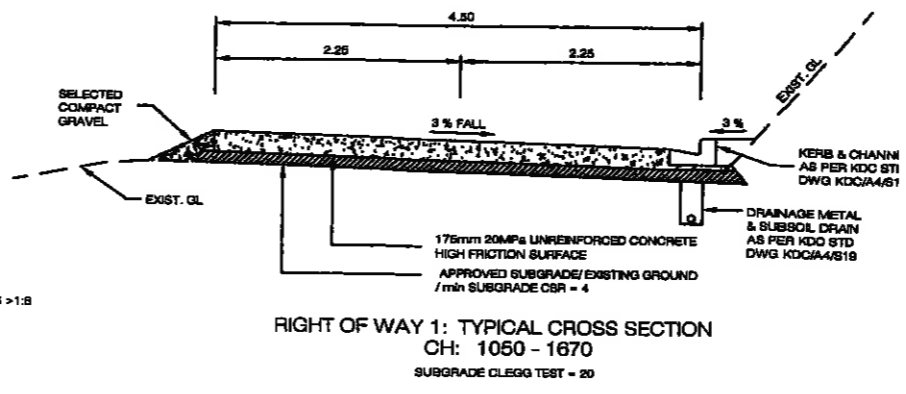
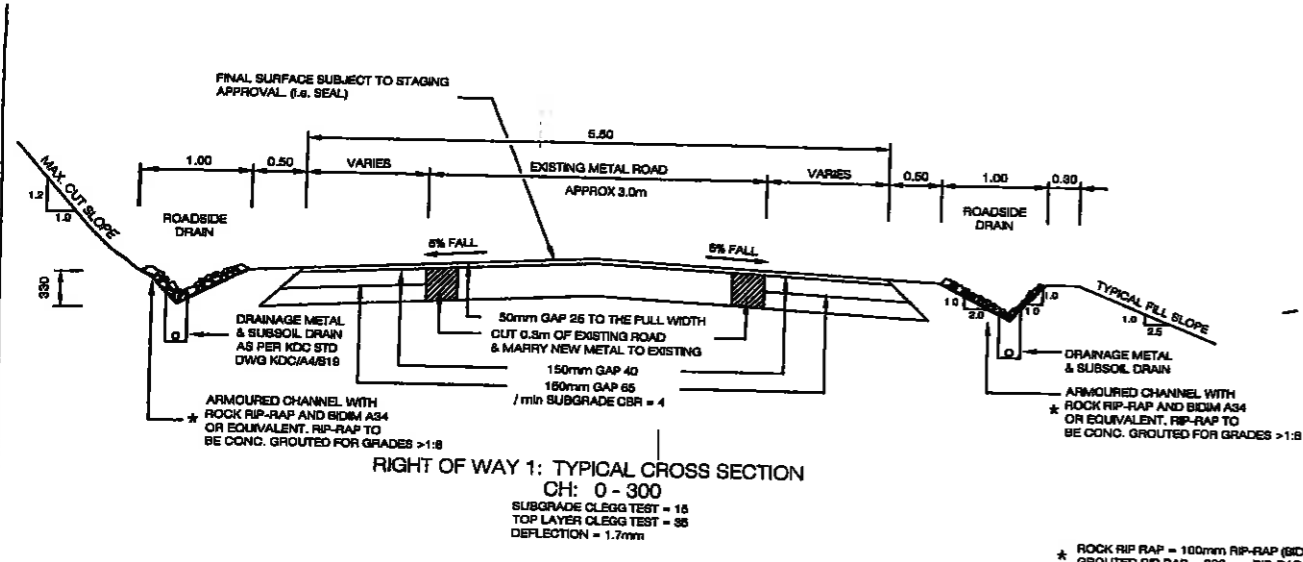


STATION	0	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	660	680	700	720	725		
VERTICAL CURVE DATA				Sag STA=30.00 Sag ELEV=35.95	Peak STA=80.00 Peak ELEV=42.35	Sag STA=100.00 Sag ELEV=40.95	Peak STA=140.81 Peak ELEV=42.41	Sag STA=201.11 Sag ELEV=33.71	Peak STA=232.27 Peak ELEV=37.29	Peak STA=250.20 Peak ELEV=32.40	Sag STA=270.00 Sag ELEV=35.42	Peak STA=300.91 Peak ELEV=30.87	Sag STA=370.00 Sag ELEV=31.81	Peak STA=440.00 Peak ELEV=32.20	Peak STA=464.00 Peak ELEV=32.55	Sag STA=490.18 Sag ELEV=34.22	Sag STA=550.00 Sag ELEV=37.17	Peak STA=590.00 Peak ELEV=35.78	Peak STA=625.00 Peak ELEV=31.82	Sag STA=672.25 Sag ELEV=32.17																				
LL DEPTHS	0.25	0.05	0.08	0.01	0.09	-0.05	-0.13	0.02	-0.21	0.14	-0.01	0.09	0.18	-0.08	0.04	-0.06	-0.15	-0.07	-0.18	0.04	0.07	0.05	0.02	-0.21	0.67	-0.17	-0.15	-0.25	0.28	-0.20	-0.10	-0.01	-0.16	-0.08	-0.01	-0.21	0.00			
LEVELS	37.97	38.22	38.31	38.54	38.83	40.38	41.31	42.43	40.32	33.79	33.72	35.35	37.13	35.40	35.74	31.24	31.05	31.85	32.14	33.24	34.05	35.16	35.57	35.24	33.61	35.66	30.98	37.57	41.16	47.95	53.21	55.16	51.34	52.53	56.89	72.81	74.19			
PROPOSED LEVELS	37.97	38.22	38.31	38.54	38.83	40.38	41.31	42.43	40.32	33.79	33.72	35.35	37.13	35.40	35.74	31.24	31.05	31.85	32.14	33.24	34.05	35.16	35.57	35.24	33.61	35.66	30.98	37.57	41.16	47.95	53.21	55.16	51.34	52.53	56.89	72.81	74.19			
EXISTING LEVELS																																								

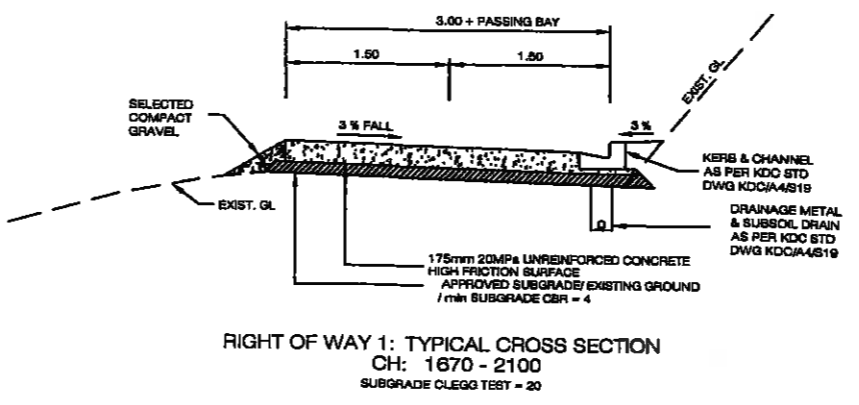
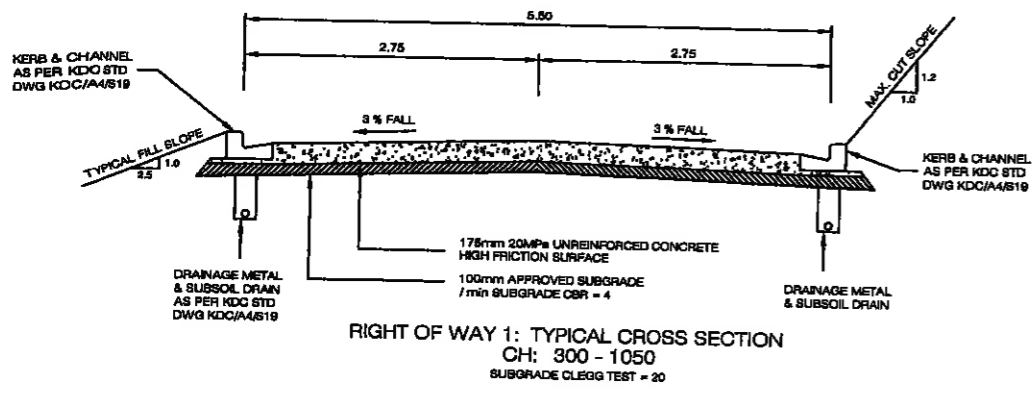
RIGHT OF WAY 2: LONGSECTION

NOTE: A) Ground Level to be verified on site by engineer.
 B) Final alignment, Vertical/Horizontal to be verified on site by engineer.
 C) Final access to follow existing.

<table border="1"> <tr> <th>REVISION</th> <th>CHECKED</th> <th>DATE</th> <th>BY</th> <th>DATE</th> </tr> <tr> <td>1</td> <td>A.K</td> <td>17/10/08</td> <td></td> <td></td> </tr> </table>	REVISION	CHECKED	DATE	BY	DATE	1	A.K	17/10/08			<table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td>1</td> <td>20/06/08</td> <td>SURVEYED</td> </tr> <tr> <td>2</td> <td>28/06/08</td> <td>DRAWN</td> </tr> <tr> <td>3</td> <td>28/06/08</td> <td>CHECKED</td> </tr> </table>	NO.	DATE	DESCRIPTION	1	20/06/08	SURVEYED	2	28/06/08	DRAWN	3	28/06/08	CHECKED	<table border="1"> <tr> <th>PROJECT CONSULTANT</th> <th>CLIENT</th> <th>TITLE</th> </tr> <tr> <td> </td> <td>MANGAWHAI HEADS HOLDINGS LTD</td> <td>RIGHT OF WAY 2 LONGSECTION</td> </tr> </table>	PROJECT CONSULTANT	CLIENT	TITLE		MANGAWHAI HEADS HOLDINGS LTD	RIGHT OF WAY 2 LONGSECTION	<table border="1"> <tr> <th>SCALE @ A1</th> <th>SCALE @ A2</th> </tr> <tr> <td>1:5000 (V)</td> <td>1:10000 (V)</td> </tr> <tr> <td>1:1000 (H)</td> <td>1:2000 (H)</td> </tr> </table>	SCALE @ A1	SCALE @ A2	1:5000 (V)	1:10000 (V)	1:1000 (H)	1:2000 (H)
REVISION	CHECKED	DATE	BY	DATE																																	
1	A.K	17/10/08																																			
NO.	DATE	DESCRIPTION																																			
1	20/06/08	SURVEYED																																			
2	28/06/08	DRAWN																																			
3	28/06/08	CHECKED																																			
PROJECT CONSULTANT	CLIENT	TITLE																																			
	MANGAWHAI HEADS HOLDINGS LTD	RIGHT OF WAY 2 LONGSECTION																																			
SCALE @ A1	SCALE @ A2																																				
1:5000 (V)	1:10000 (V)																																				
1:1000 (H)	1:2000 (H)																																				
<table border="1"> <tr> <th>PROJECT NO.</th> <th>CAD FILE</th> </tr> <tr> <td>23219</td> <td>H:\Projects\23219\Right of Way 2 Longsection.dwg</td> </tr> </table>		PROJECT NO.	CAD FILE	23219	H:\Projects\23219\Right of Way 2 Longsection.dwg	<table border="1"> <tr> <th>DWG NO.</th> <th>REV</th> </tr> <tr> <td>C132</td> <td>A</td> </tr> </table>		DWG NO.	REV	C132	A																										
PROJECT NO.	CAD FILE																																				
23219	H:\Projects\23219\Right of Way 2 Longsection.dwg																																				
DWG NO.	REV																																				
C132	A																																				



* ROCK RIP RAP = 100mm RIP-RAP (BDM CLOTH)
GROUTED RIP RAP = 200mm RIP-RAP (CONC. GROUTED)



RIGHT OF WAY DESIGN

PURPOSE	CHAINAGE	CARRIAGEWAY WIDTH (m)	MATERIAL	PASSING BAY
RIGHT OF WAY 1	0 - 300	5.5	METAL/SEAL	NO
	300 - 1050	5.5	CONCRETE	NO
	1050 - 1670	* 4.5	CONCRETE	NO
	1670 - 2100	3.0	CONCRETE	YES
RIGHT OF WAY 2	0 - 480	3.5	METAL < 1:8	YES
	480 - END	3.0	CONC. > 1:8	YES

* SHOULDER WIDENING TO 5.5m AROUND CORNERS WHERE POSSIBLE.

REV	AMENDMENT	CHECKED	DATE	DRAWN	DATE	PROJECT CONSULTANT
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	SURVEYED		
				DRAWN	28/06/08	
				TRACED	28/06/08	
				CHECKED	28/06/08	



CLIENT: MANGAWHAI HEADS HOLDINGS LTD

PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION, KAPAWITI RD, MANGAWHAI

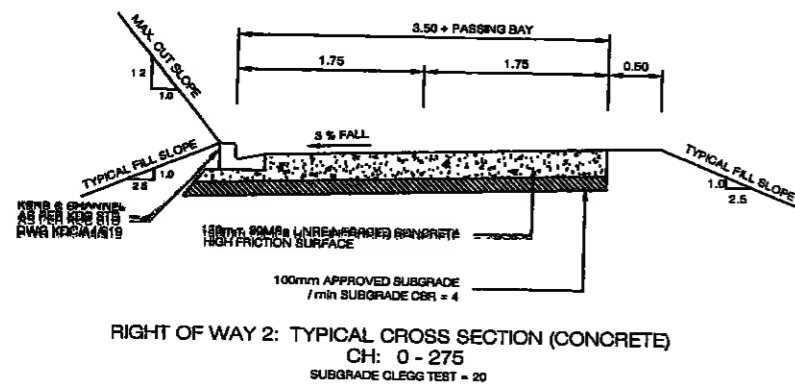
RIGHT OF WAY 1: TYPICAL CROSS SECTIONS

SCALE (P1)	1:25	SCALE (P2)	1:50
PROJECT NO	23219	CAD FILE	W:\Projects\Kapea Road\Kapea Road\Kapea Road.dwg
DWG NO	C139	REV	A

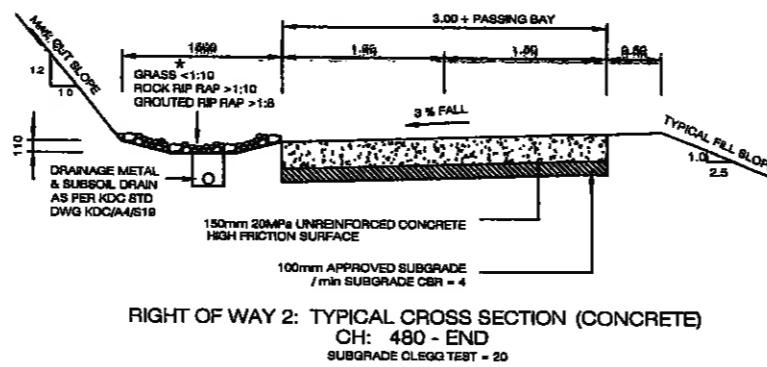
RIGHT OF WAY DESIGN

PURPOSE	CHAINAGE	CARRIAGEWAY WIDTH (m)	MATERIAL	PASSING BAY
RIGHT OF WAY 1	0 - 300	5.5	METAL/SEAL	NO
	300 - 1050	5.5	CONCRETE	NO
	1050 - 1670	4.5	CONCRETE	NO
	1670 - 2100	3.0	CONCRETE	YES
RIGHT OF WAY 2	0 - 480	3.5	METAL < 1:8	YES
	480 - END	3.0	CONC. > 1:8	YES

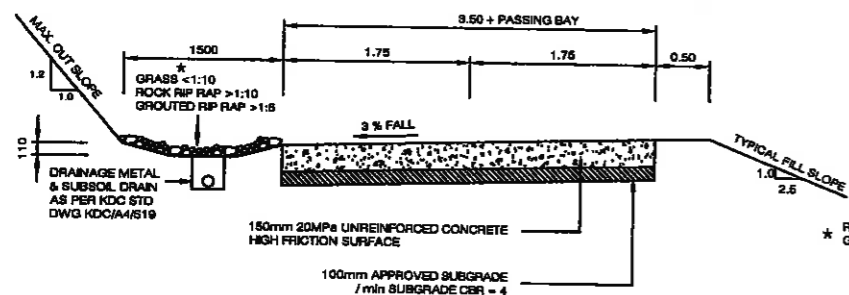
* SHOULDER WIDENING TO 5.5m AROUND CORNERS WHERE POSSIBLE.



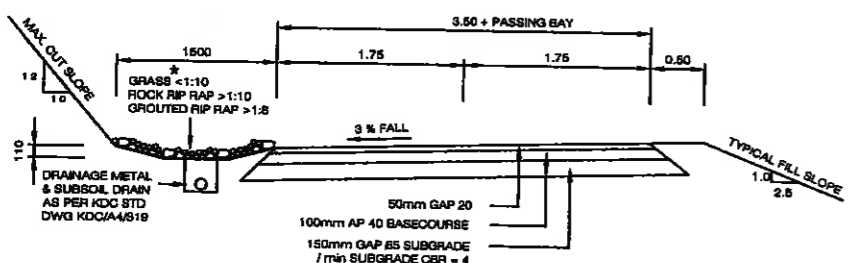
RIGHT OF WAY 2: TYPICAL CROSS SECTION (CONCRETE)
CH: 0 - 275
SUBGRADE CLEGG TEST = 20



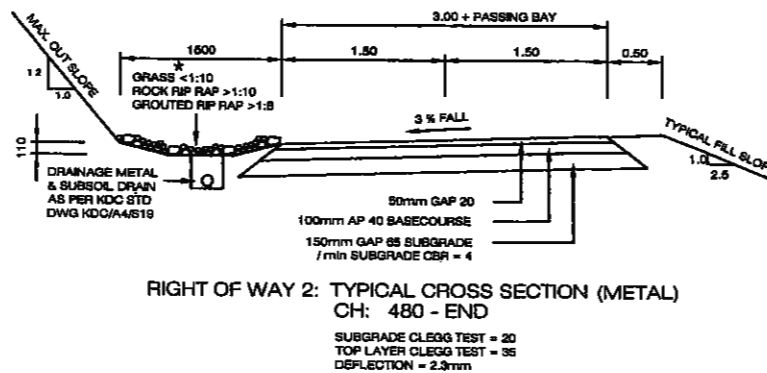
RIGHT OF WAY 2: TYPICAL CROSS SECTION (CONCRETE)
CH: 480 - END
SUBGRADE CLEGG TEST = 20



RIGHT OF WAY 2: TYPICAL CROSS SECTION (CONCRETE)
CH: 275 - 480
SUBGRADE CLEGG TEST = 20



RIGHT OF WAY 2: TYPICAL CROSS SECTION (METAL)
CH: 275 - 480
SUBGRADE CLEGG TEST = 20
TOP LAYER CLEGG TEST = 35
DEFLECTION = 2.1mm



RIGHT OF WAY 2: TYPICAL CROSS SECTION (METAL)
CH: 480 - END
SUBGRADE CLEGG TEST = 20
TOP LAYER CLEGG TEST = 35
DEFLECTION = 2.3mm

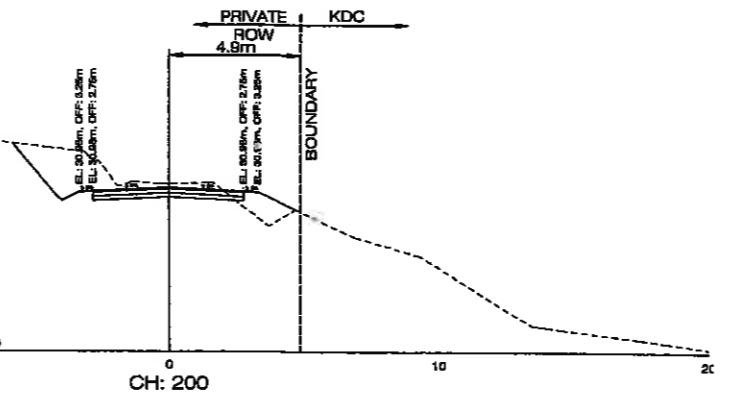
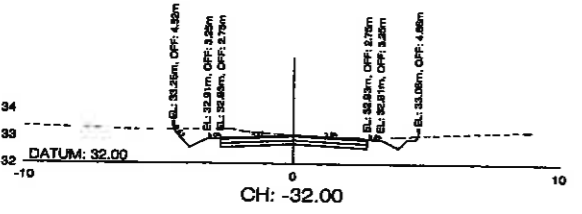
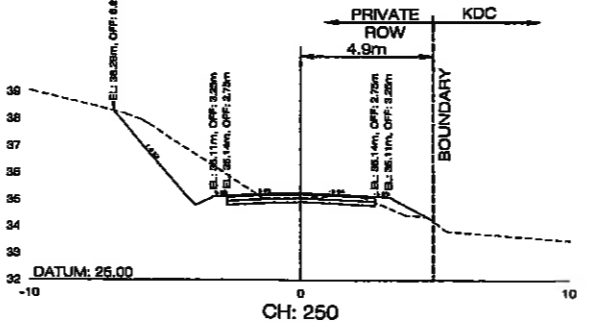
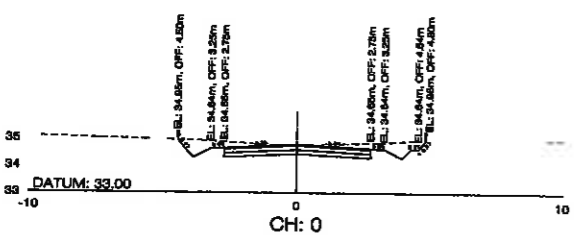
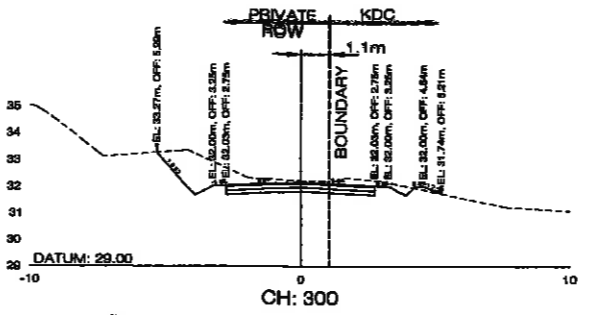
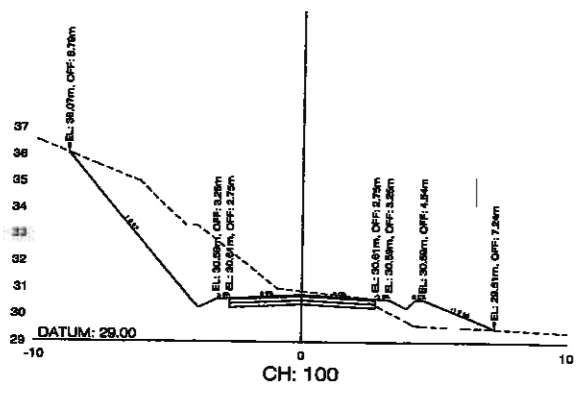
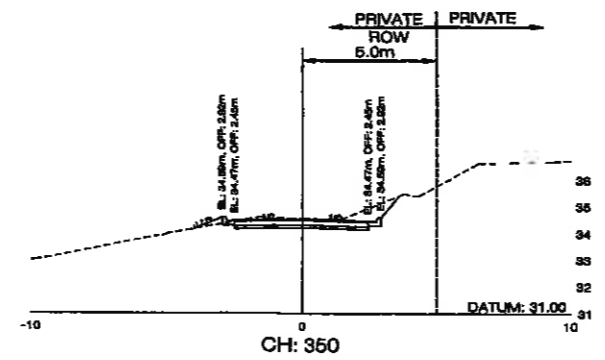
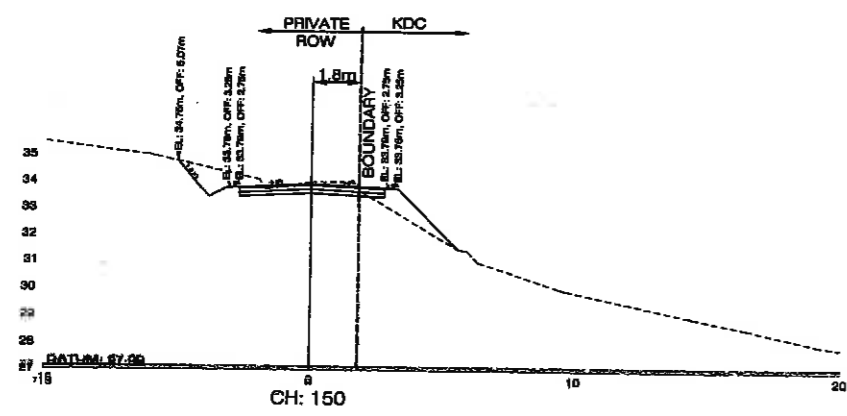
REV	AMENDMENT	DRAWN	DATE	CHECKED	DATE
A	ISSUED FOR RESOURCE CONSENT	AJK	17/10/08		

KEA CONSULTANTS
 150 Graham Road, Grafton, Auckland
 P.O. Box 5185, Waiwaka Drive, Auckland
 PH 09 437 7822 FAX 09 437 7827

CLIENT: MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION, KAPAWITI RD, MANGAWHAI

RIGHT OF WAY 2 : TYPICAL CROSS SECTIONS

SCALE # A1	1:25	SCALE # A2	1:50
PROJECT No	23219	DATE FILED	14/10/2008
DWG No	C134	REV	A



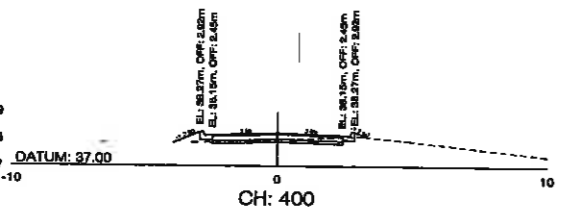
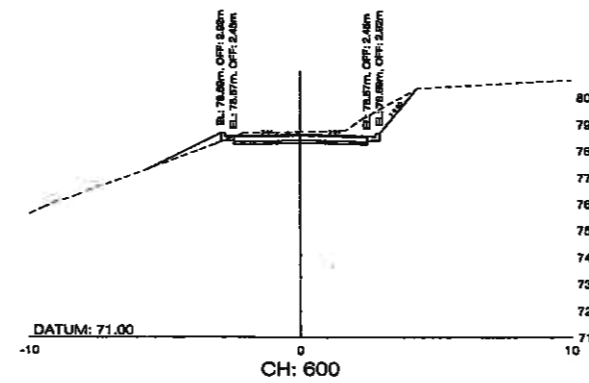
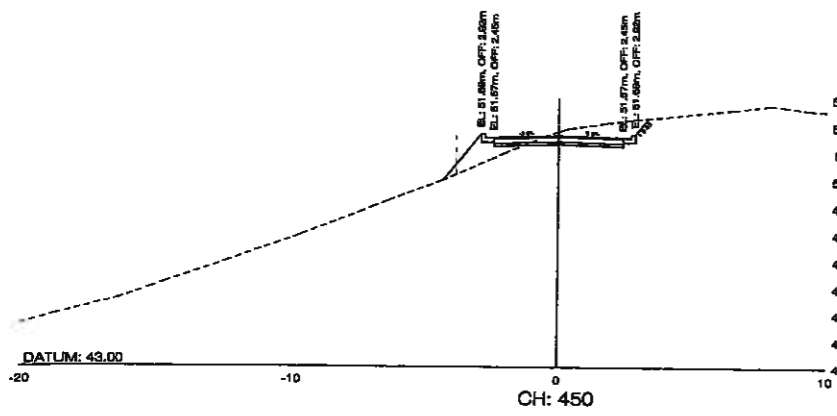
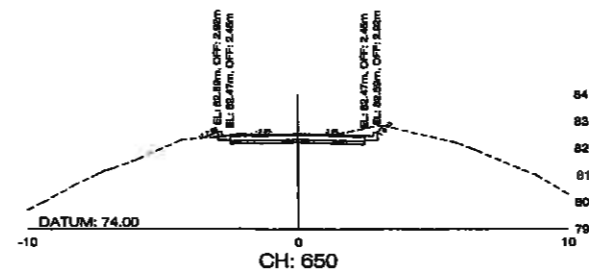
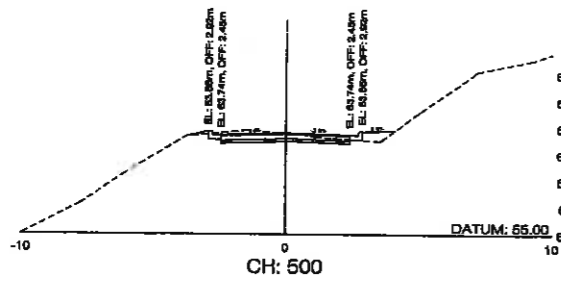
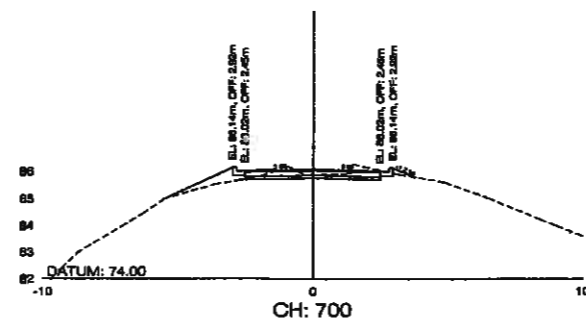
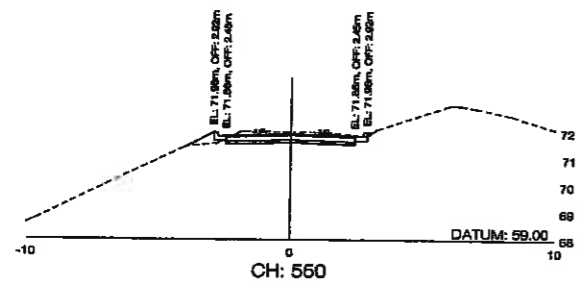
REV	AMENDMENT	CHECKED	DATE	NAME	DATE
A	ISSUED FOR RESOURCE CONSENT	AJK	17/10/08		
				SUPERVISED	
				DESIGNED	28/06/08
				DRAWN	28/06/08
				TRACED	
				CHECKED	G.T 28/06/08




CLIENT: MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION, KAPAWITI RD, MANGAWHAI

TITLE: RIGHT OF WAY 1: CROSS SECTIONS (SHEET 1 OF 7)

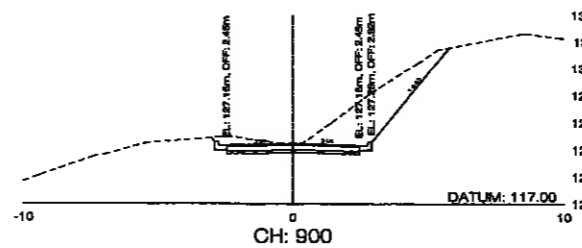
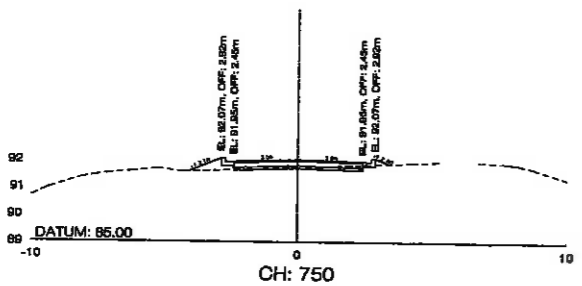
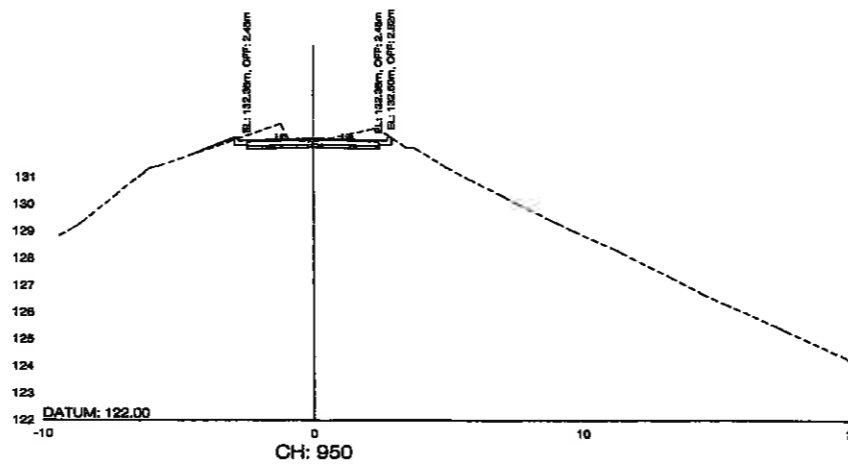
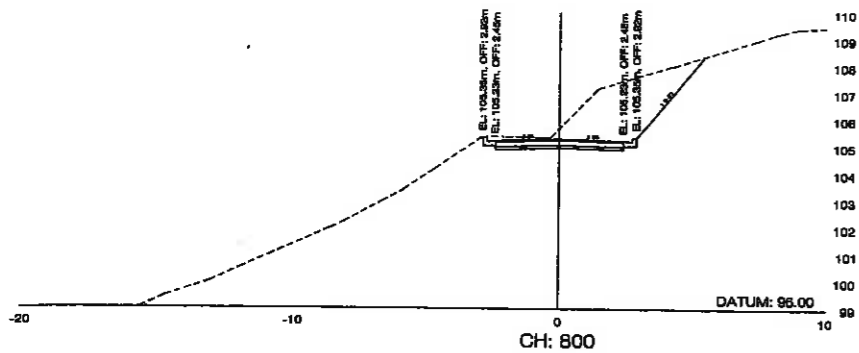
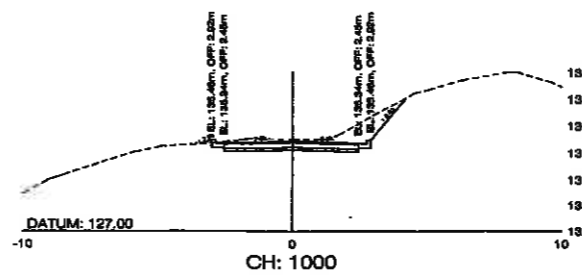
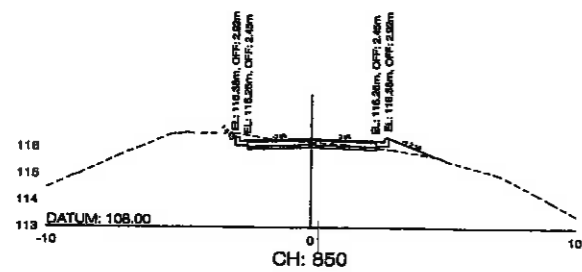
SCALE # A1	SCALE # A2
1:100	1:200
PROJECT NO: 23219	DWG FILE: W:\Projects\23219\KAWHAI\Road\Right of Way.dwg
DWG NO: C135 - 1	REV: A



REV	REVISION	CHECKED	DATE	DESIGNED	DATE	PROJECT CONSULTANT
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	SURVEYED	26/06/08	 KPA CONSULTANTS LTD 140 Grange Road, Grange, Auckland P.O. Box 1175, Mairangi Bay, Auckland Fax: 09 251 7827
				DRAWN	26/06/08	
				TRACED		
				CHECKED	26/06/08	

CLIENT	TITLE
MANGAWHAI HEADS HOLDINGS LTD	RIGHT OF WAY 1: CROSS SECTIONS (SHEET 2 OF 7)
PROJECT LOCATION	
KAPAWITI ROAD SUBDIVISION KAPAWITI RD, MANGAWHAI	

SCALE #1	SCALE #2
1:100	1:200
PROJECT #	CAD FILE
23219	W:\Projects\Kapawiti Road\Right of Way
DWG NO	REV
C135 - 2	A



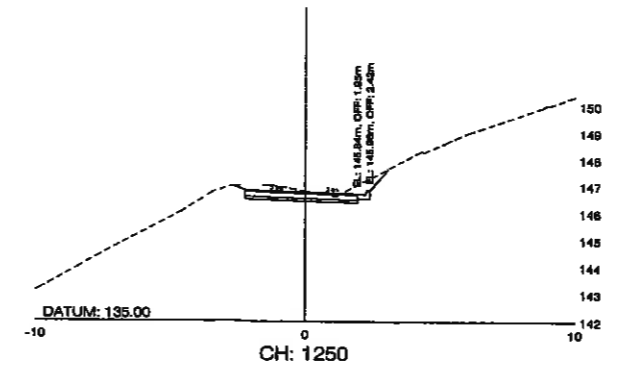
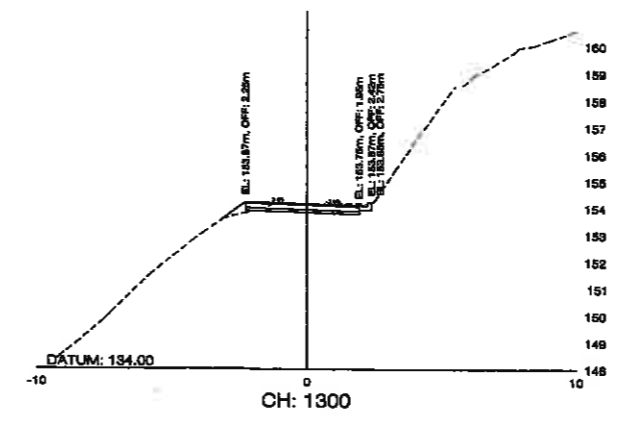
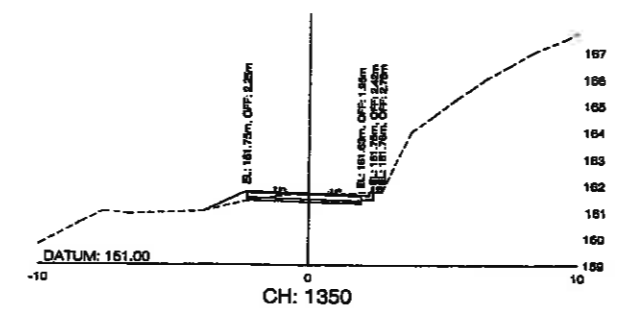
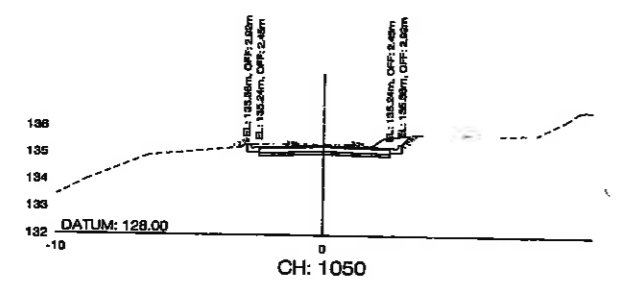
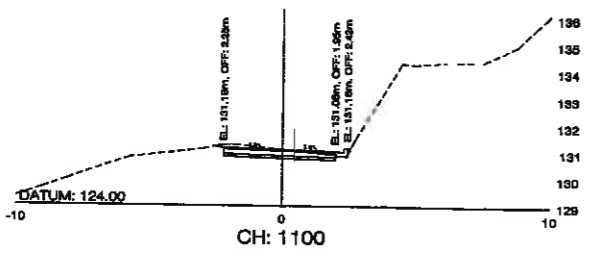
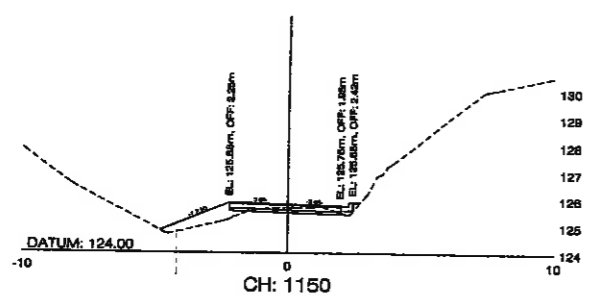
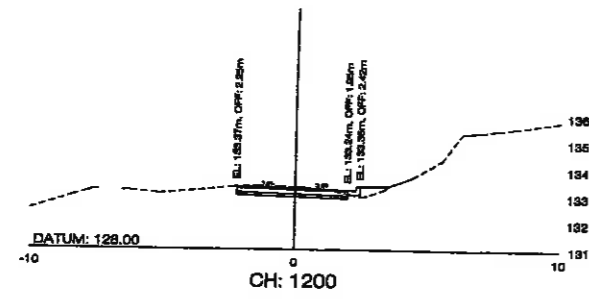
REV	ALLOCATION	DESIGNED	DATE	NAME	DATE
A	ISSUED FOR RESOURCE CONSENT	AJK	17/10/08	SURVEYED	
				DESIGNED	G.T 29/06/08
				DRAWN	SP 25/06/08
				TRACED	
				CHECKED	G.T 28/06/08



CLIENT: MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION, KAPAWITI RD, MANGAWHAI

RIGHT OF WAY 1: CROSS SECTIONS (SHEET 3 OF 7)

SCALE @ A1: 1:100	SCALE @ A3: 1:200
PROJECT NO: 23219	CAD FILE: K:\Projects\Kapehu\Kapehu\Kapehu\Kapehu.dwg
DWG NO: C135-3	REV: A



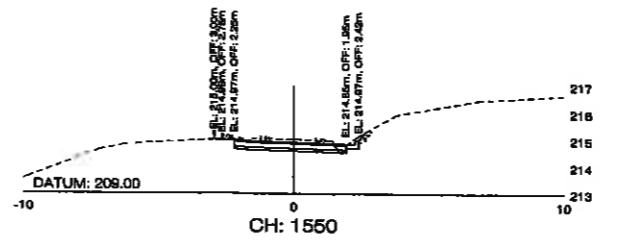
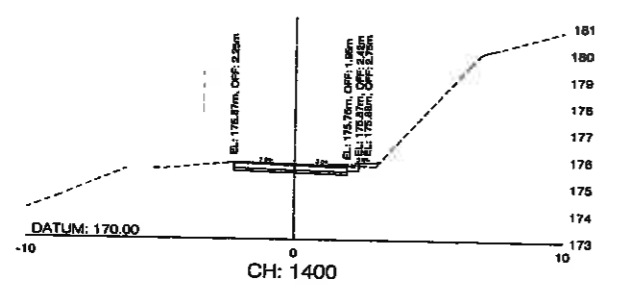
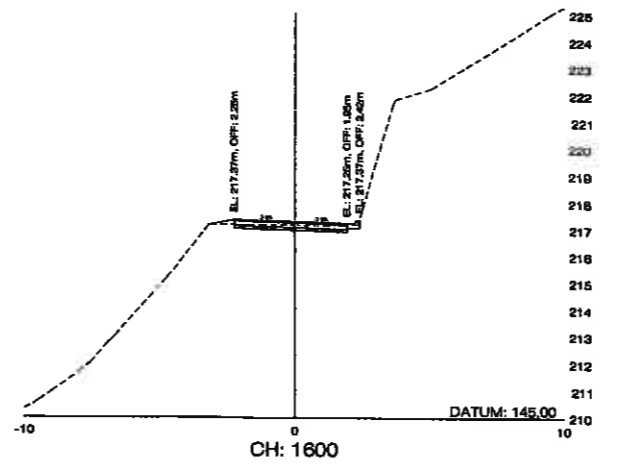
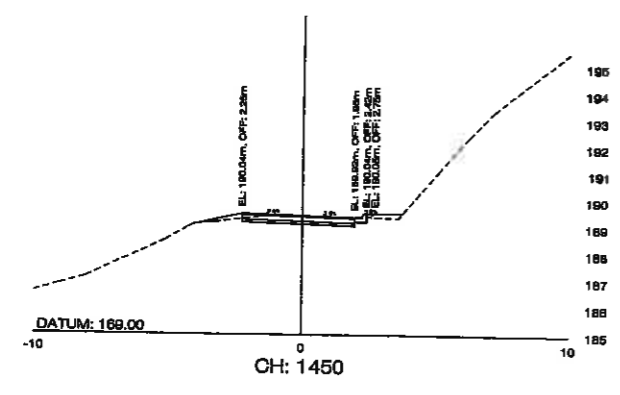
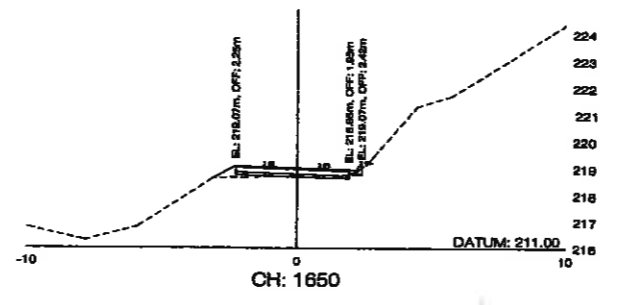
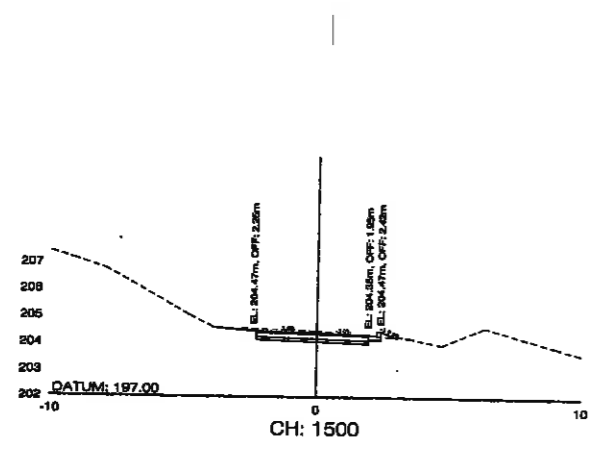
REV	AMENDMENT	CHKD	DATE	BY	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/11/08	SURVEYED	
				DESIGNED	G.T 28/06/08
				DRAWN	SP 28/09/08
				TRACED	
				CHECKED	G.T 28/09/08

PROJECT CONSULTANT
KEA
 CONSULTANTS
 189 Grattan Road, Grattan, Auckland
 P.O. Box 2102, Grattan Road, Auckland
 PH 09 480 2262

CLIENT
MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION
**KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI**

TITLE
**RIGHT OF WAY 1:
 CROSS SECTIONS
 (SHEET 4 OF 7)**

SCALE @ AT	SCALE @ AS
1:100	1:200
PROJECT NO 23219	CHK FILE N:\Projects\23219\Drawings\Plan.dwg
DWG NO C135 - 4	REV A



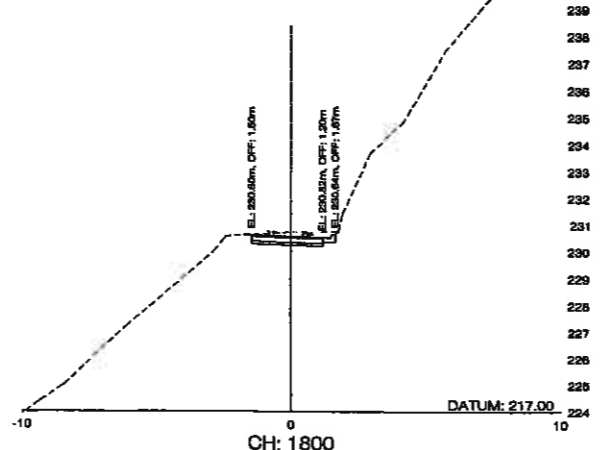
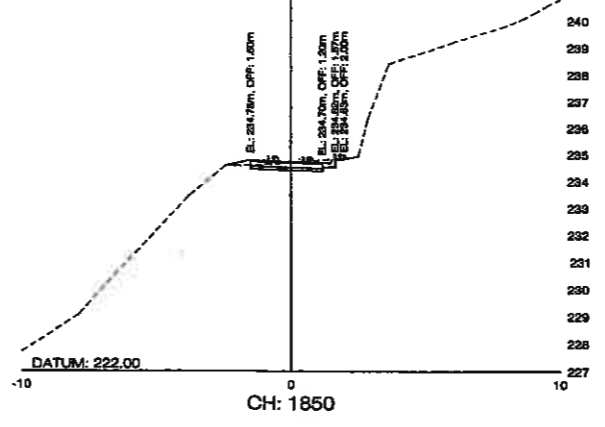
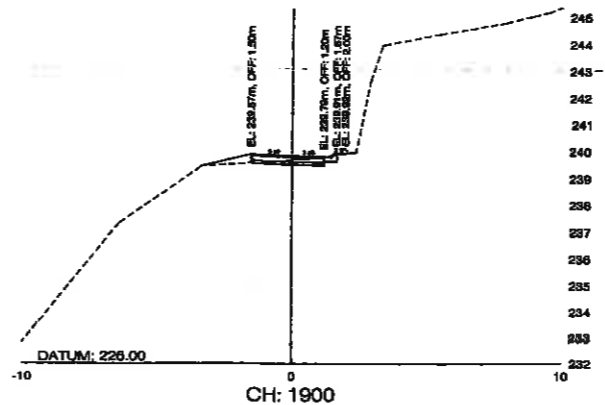
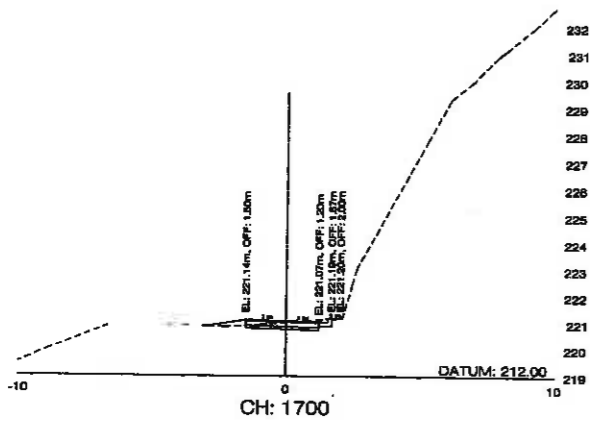
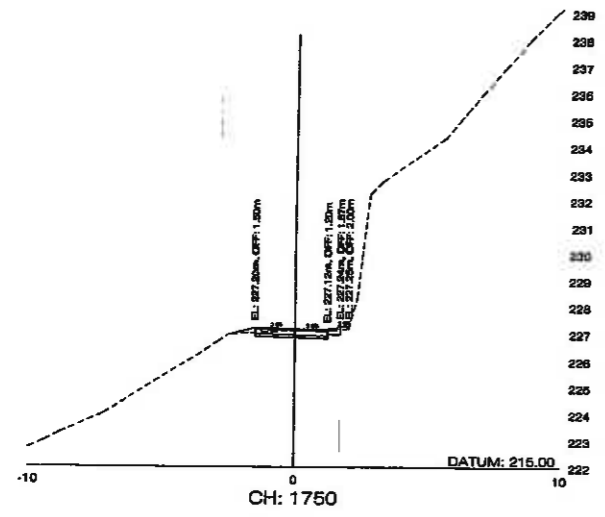
REV	AMENDMENT	CHECKED	DATE	DRAWN	DATE	PROJECT CONSULTANT
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08			
				SURVEYED		
				DESIGNED	G.T	28/06/08
				DRAWN	SP	28/06/08
				TRACED		
				CHECKED	G.T	28/06/08



CLIENT: MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION, KAPAWITI RD, MANGAWHAI

TITLE: RIGHT OF WAY 1: CROSS SECTIONS (SHEET 5 OF 7)

SCALE H/A: 1:100	SCALE V/A: 1:200
PROJECT No: 23219	DWG FILE: 11 Project/23219/08/08/Right of Way/Plan.dwg
DWG No: C135-5	REV: A

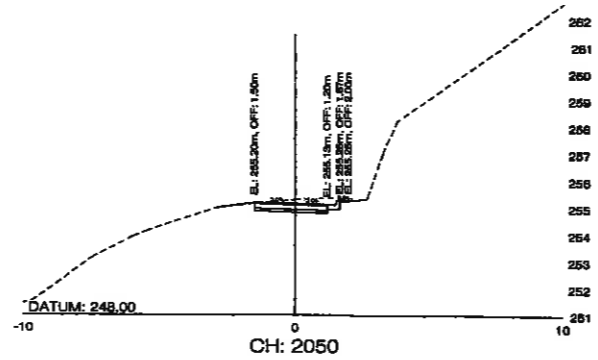
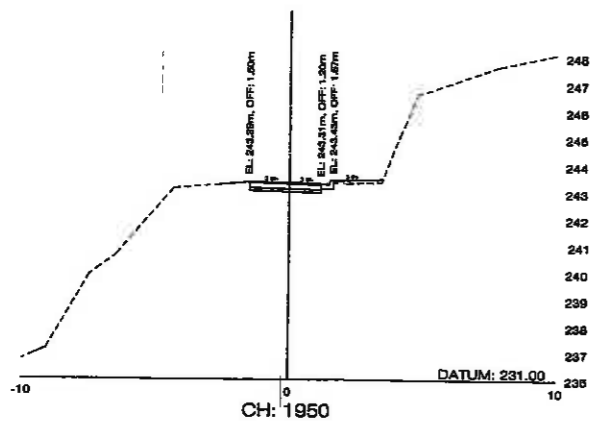
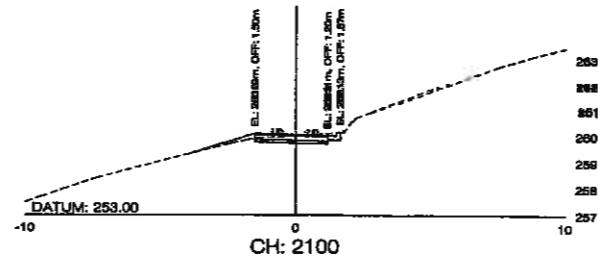
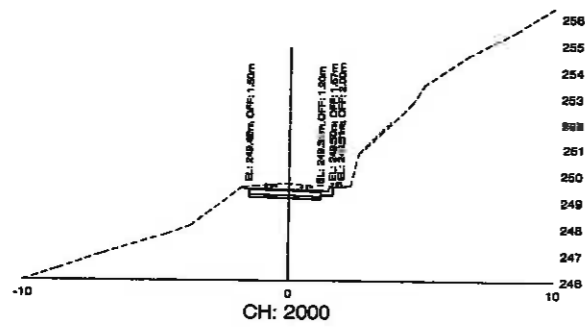


REV	AMENDMENT	CHECKED	DATE	MADE	DATE	PROJECT CONSULTANT	
A	ISSUED FOR RESOURCE CONSENT	A.K	17/11/08	SURVEYED		 250/251/252/253/254/255/256/257/258/259/260/261/262/263/264/265/266/267/268/269/270/271/272/273/274/275/276/277/278/279/280/281/282/283/284/285/286/287/288/289/290/291/292/293/294/295/296/297/298/299/300/301/302/303/304/305/306/307/308/309/310/311/312/313/314/315/316/317/318/319/320/321/322/323/324/325/326/327/328/329/330/331/332/333/334/335/336/337/338/339/340/341/342/343/344/345/346/347/348/349/350/351/352/353/354/355/356/357/358/359/360/361/362/363/364/365/366/367/368/369/370/371/372/373/374/375/376/377/378/379/380/381/382/383/384/385/386/387/388/389/390/391/392/393/394/395/396/397/398/399/400/401/402/403/404/405/406/407/408/409/410/411/412/413/414/415/416/417/418/419/420/421/422/423/424/425/426/427/428/429/430/431/432/433/434/435/436/437/438/439/440/441/442/443/444/445/446/447/448/449/450/451/452/453/454/455/456/457/458/459/460/461/462/463/464/465/466/467/468/469/470/471/472/473/474/475/476/477/478/479/480/481/482/483/484/485/486/487/488/489/490/491/492/493/494/495/496/497/498/499/500/501/502/503/504/505/506/507/508/509/510/511/512/513/514/515/516/517/518/519/520/521/522/523/524/525/526/527/528/529/530/531/532/533/534/535/536/537/538/539/540/541/542/543/544/545/546/547/548/549/550/551/552/553/554/555/556/557/558/559/560/561/562/563/564/565/566/567/568/569/570/571/572/573/574/575/576/577/578/579/580/581/582/583/584/585/586/587/588/589/590/591/592/593/594/595/596/597/598/599/600/601/602/603/604/605/606/607/608/609/610/611/612/613/614/615/616/617/618/619/620/621/622/623/624/625/626/627/628/629/630/631/632/633/634/635/636/637/638/639/640/641/642/643/644/645/646/647/648/649/650/651/652/653/654/655/656/657/658/659/660/661/662/663/664/665/666/667/668/669/670/671/672/673/674/675/676/677/678/679/680/681/682/683/684/685/686/687/688/689/690/691/692/693/694/695/696/697/698/699/700/701/702/703/704/705/706/707/708/709/710/711/712/713/714/715/716/717/718/719/720/721/722/723/724/725/726/727/728/729/730/731/732/733/734/735/736/737/738/739/740/741/742/743/744/745/746/747/748/749/750/751/752/753/754/755/756/757/758/759/760/761/762/763/764/765/766/767/768/769/770/771/772/773/774/775/776/777/778/779/780/781/782/783/784/785/786/787/788/789/790/791/792/793/794/795/796/797/798/799/800/801/802/803/804/805/806/807/808/809/810/811/812/813/814/815/816/817/818/819/820/821/822/823/824/825/826/827/828/829/830/831/832/833/834/835/836/837/838/839/840/841/842/843/844/845/846/847/848/849/850/851/852/853/854/855/856/857/858/859/860/861/862/863/864/865/866/867/868/869/870/871/872/873/874/875/876/877/878/879/880/881/882/883/884/885/886/887/888/889/890/891/892/893/894/895/896/897/898/899/900/901/902/903/904/905/906/907/908/909/910/911/912/913/914/915/916/917/918/919/920/921/922/923/924/925/926/927/928/929/930/931/932/933/934/935/936/937/938/939/940/941/942/943/944/945/946/947/948/949/950/951/952/953/954/955/956/957/958/959/960/961/962/963/964/965/966/967/968/969/970/971/972/973/974/975/976/977/978/979/980/981/982/983/984/985/986/987/988/989/990/991/992/993/994/995/996/997/998/999/1000	
				DESIGNED	G.T		28/06/08
				DRAWN	SP		28/06/08
				TRACED			
				CHECKED	G.T		28/06/08

CLIENT: MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI

TITLE: RIGHT OF WAY:
 CROSS SECTIONS
 (SHEET 6 OF 7)

SCALE #A1	SCALE #A2
1:100	1:200
PROJECT NO: 23219	DATE: 17/11/08
DWG NO: C135 - 6	REV: A



REV	AMENDMENT	CHECKED	DATE	SURVEYED	IMAGE	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08		G.T	28/06/08
				DESIGNED	SP	28/06/08
				TRACED		
				CHECKED	G.T	28/06/08

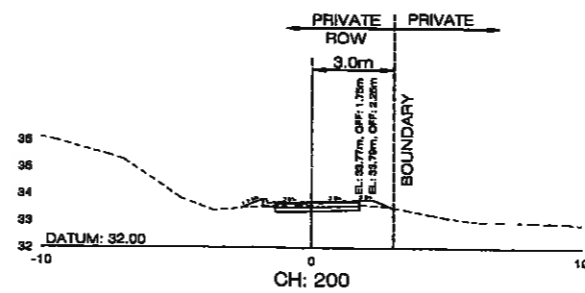
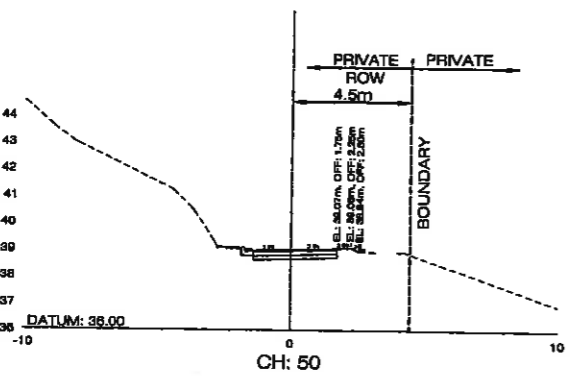
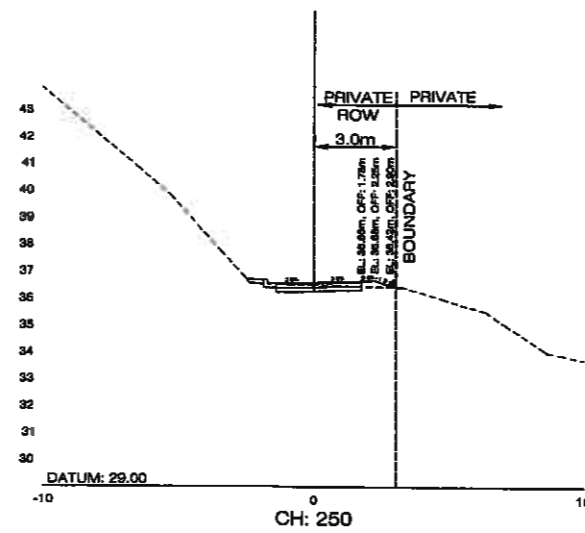
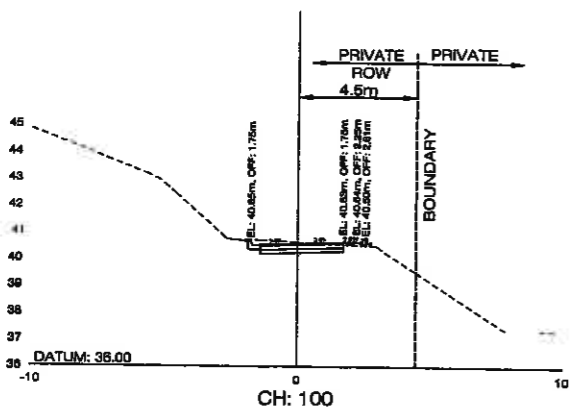
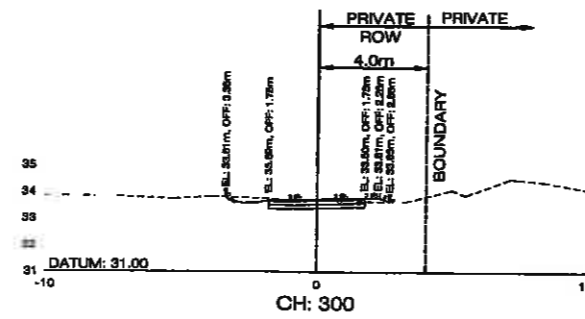
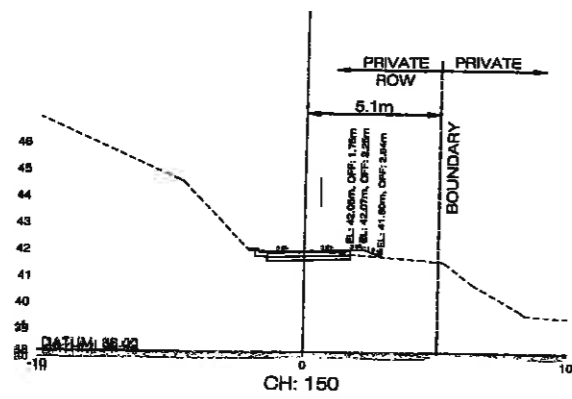


CLIENT
MANGAWHAI HEADS HOLDINGS LTD

PROJECT LOCATION
KAPAWITI ROAD SUBDIVISION
KAPAWITI RD, MANGAWHAI

RIGHT OF WAY:
CROSS SECTIONS
(SHEET 7 OF 7)

SCALE #A1	SCALE #A2
1:100	1:200
PROJECT No 23219	CAD FILE H:\Projects\Approved\Hddg\Planning
DWG No C135 - 7	REV A



REV	AMENDMENT	CHECKED	DATE	NAME	DATE
A	ISSUED FOR RESOURCE CONSENT	AJK	17/10/08	SURVEYED	
				DESIGNED	G.T 28/06/08
				DRAWN	EP 28/06/08
				TRACKED	
				CHECKED	G.T 28/06/08

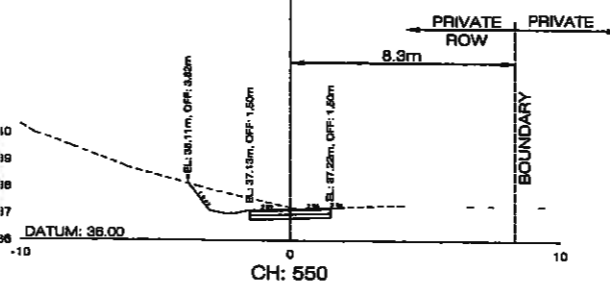
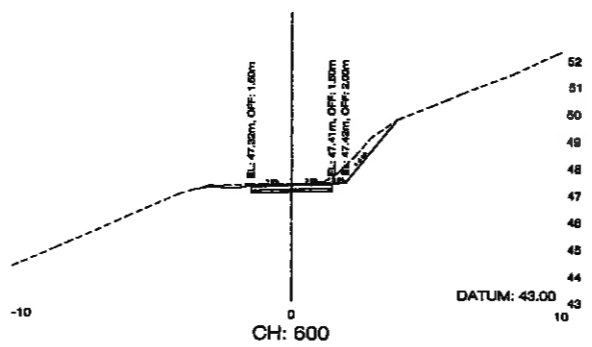
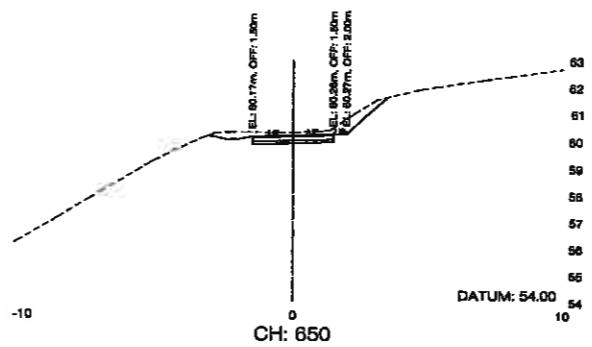
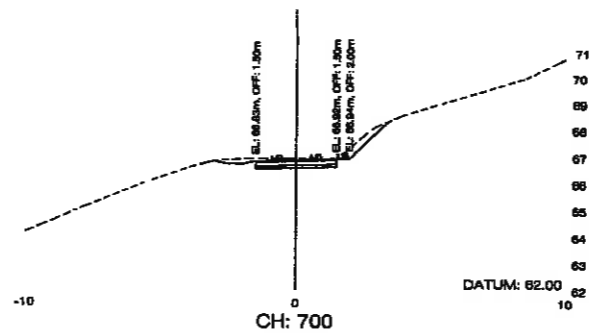
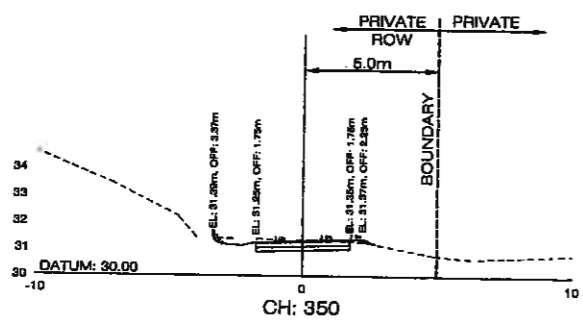
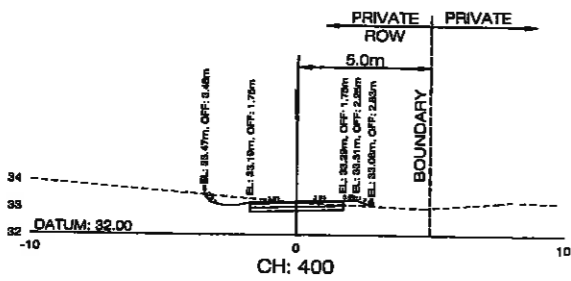
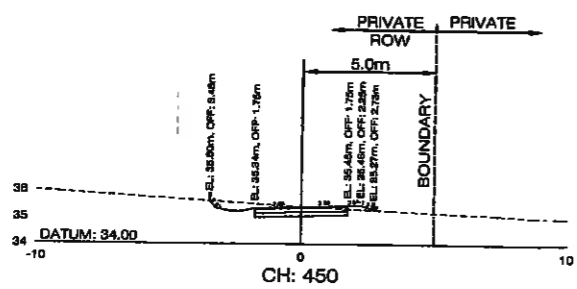
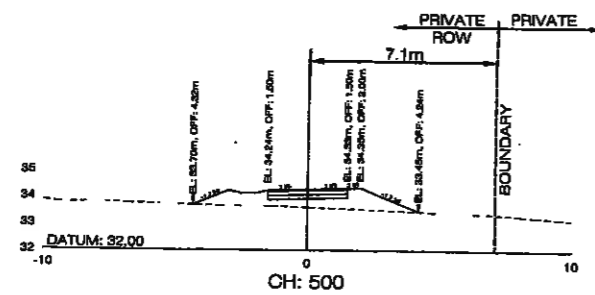
KEA
CONSULTANTS LTD
DANICOM House, Level 7
102 Shelton Road, Shelton, Auckland
P.O. Box 9288, Wellesley Street, Auckland
PH: 91 058 7868 Fax: 91 054 1587

CLIENT
MANGAWHAI HEADS HOLDINGS LTD

PROJECT LOCATION
**KAPAWITI ROAD SUBDIVISION
KAPAWITI RD, MANGAWHAI**

TITLE
**RIGHT OF WAY 2:
CROSS SECTIONS
(SHEET 1 OF 2)**

SCALE @ A1	1:100	SCALE @ A3	1:200
PROJECT No	23219	DWG FILE	H:\Projects\Kapawiti Road\Right of Way
DWG No	C136 - 1	REV	A



REV	DESCRIPTION	CHECKED	DATE	NAME	DATE	PROJECT CONSULTANT
A	ISSUED FOR RESOURCE CONSENT	AJK	17/10/08	SURVEYED		
				DESIGNED	G.T	28/06/08
				DRAWN	SP	28/06/08
				TRACED		
				CHECKED	G.T	28/06/08

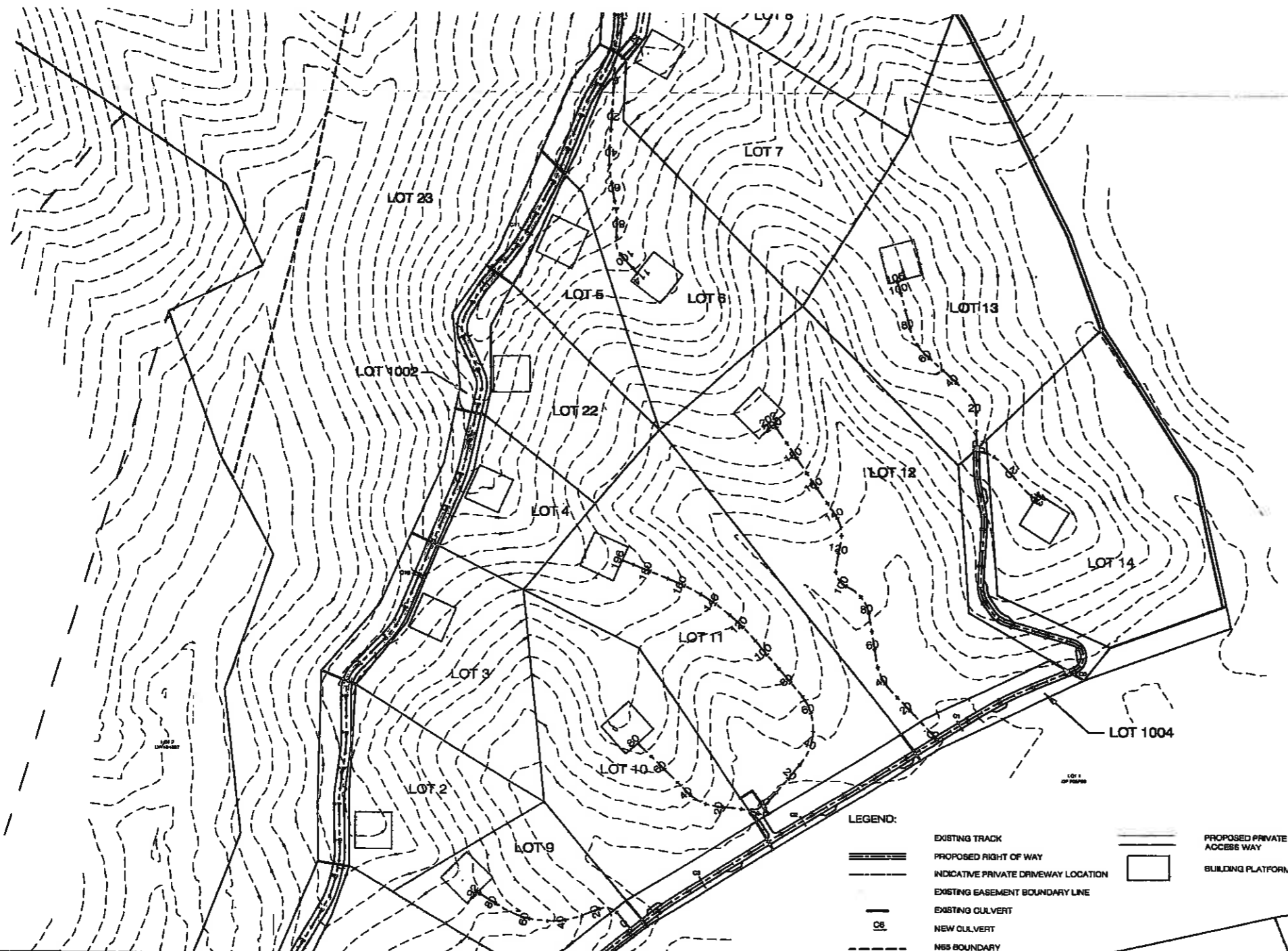


CLIENT
MANGAWHAI HEADS HOLDINGS LTD

PROJECT LOCATION
KAPAWITI ROAD SUBDIVISION
KAPAWITI RD, MANGAWHAI

RIGHT OF WAY 2:
CROSS SECTIONS
(SHEET 2 OF 2)

SCALE # A1	SCALE # A3
1:100	1:200
PROJECT NO 23219	DWG FILE K:\Projects\23219\23219.dwg
DWG NO CH 02 - 2	REV A



LEGEND:

	EXISTING TRACK		EXISTING EASEMENT BOUNDARY LINE
	PROPOSED RIGHT OF WAY		PROPOSED PRIVATE ACCESS WAY
	INDICATIVE PRIVATE DRIVEWAY LOCATION		BUILDING PLATFORM
	EXISTING EASEMENT BOUNDARY LINE		
	EXISTING CULVERT		
	NEW CULVERT		
	N6S BOUNDARY		

REV	AMENDMENT	CHECKED	DATE	SURVEYED	NAME	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	G.T	28/06/08	
				SP	28/06/08	
				G.T	28/06/08	

KEA CONSULTANTS LTD
 CONSULTANTS LTD
 101 Collins Road, Collins, Auckland
 P.O. Box 2789, Teahana Street, Auckland
 1014 0073

CLIENT: MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI

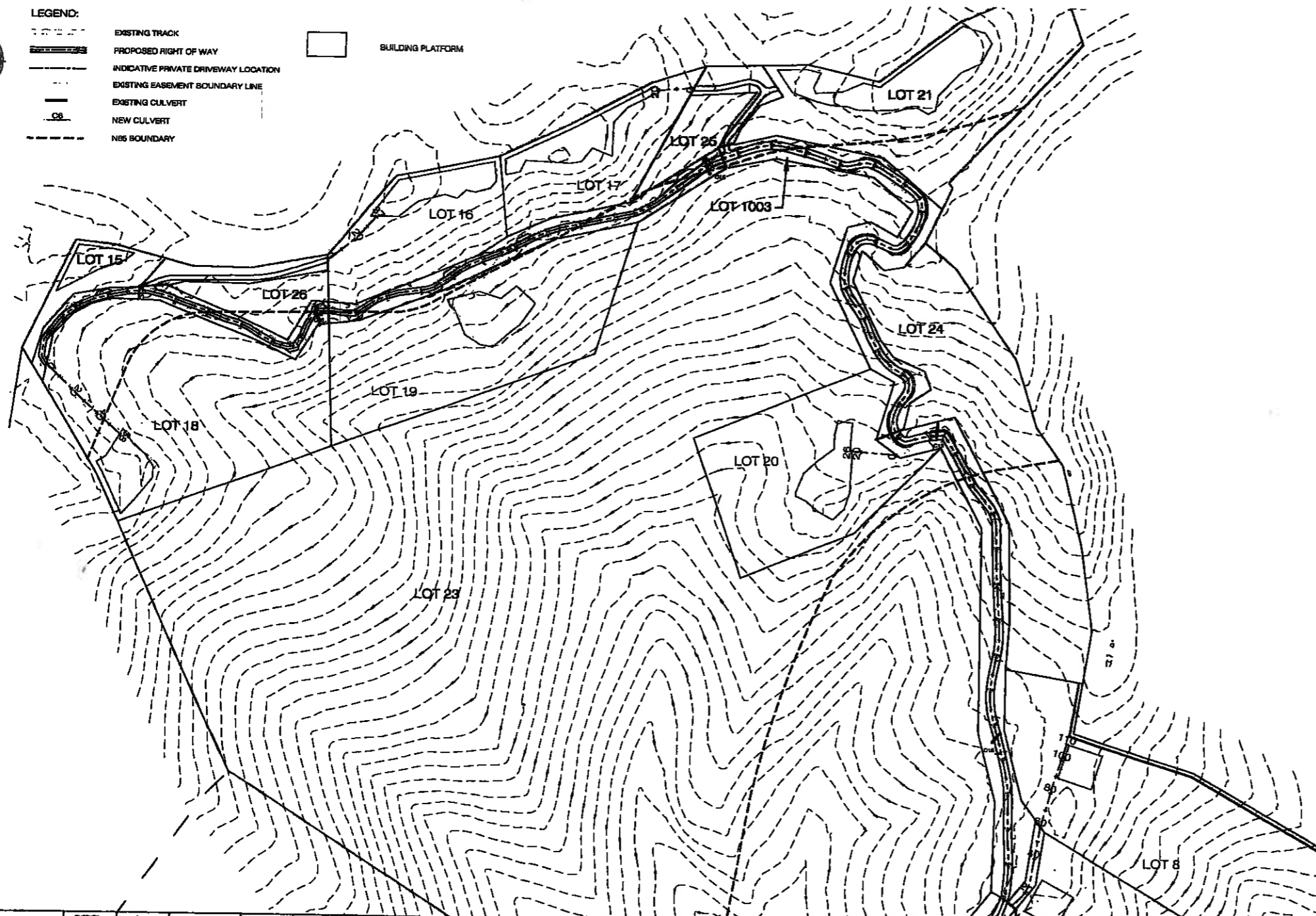
PRIVATE ACCESS WAY LOCATIONS PLAN

SCALE @ A1	1:500	SCALE @ A0	1:1000
PROJECT NO	23219	CAD FILE	18\Project\Access Way\Access Way.dwg
DWG NO	C137	REV	A



LEGEND:

- EXISTING TRACK
- PROPOSED RIGHT OF WAY
- INDICATIVE PRIVATE DRIVEWAY LOCATION
- EXISTING EASEMENT BOUNDARY LINE
- EXISTING CULVERT
- NEW CULVERT
- NBS BOUNDARY
- BUILDING PLATFORM



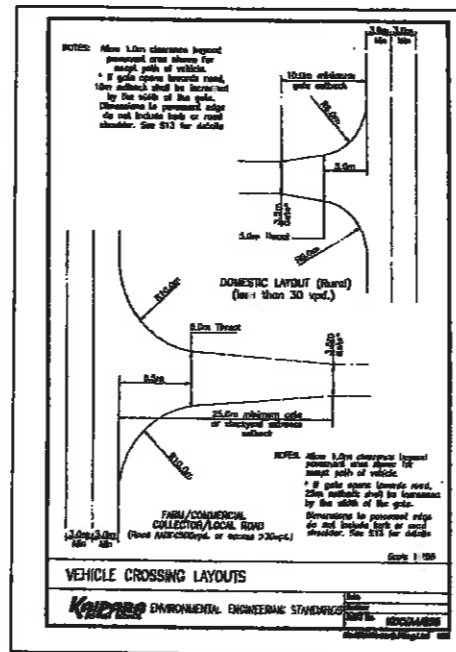
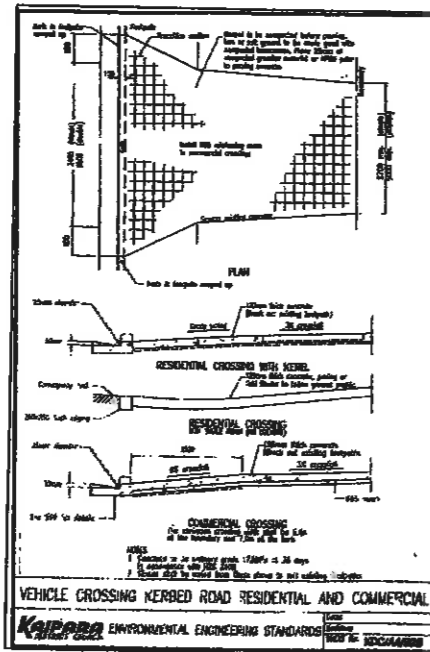
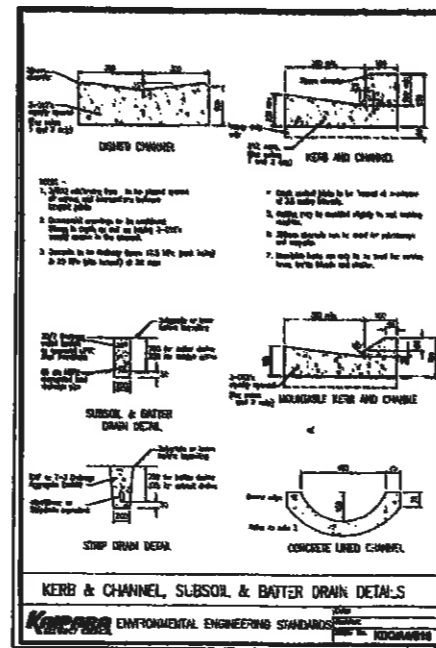
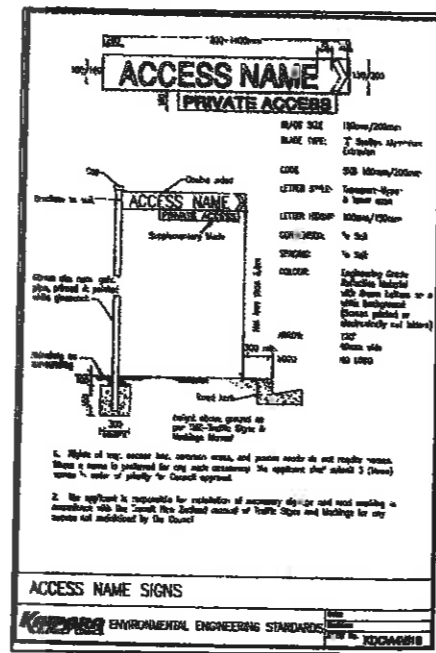
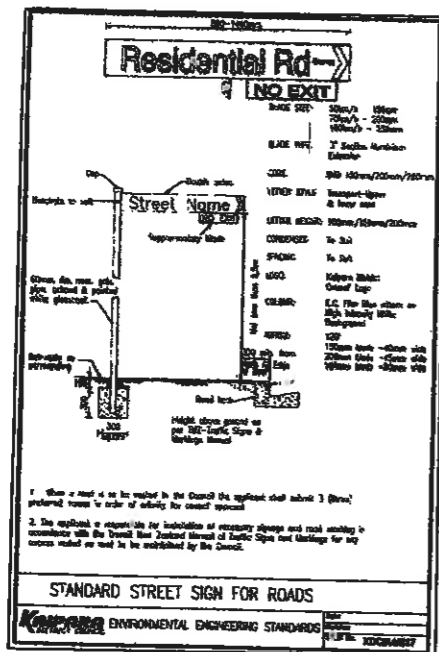
REV	AMENDMENT	CHECKED	DATE	SURVEYED	NAME	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	DESIGNED	G.T	28/06/08
				DRAWN	SP	26/06/08
				TRACED		
				CHECKED	G.T	28/08/08

KEA
CONSULTANTS LTD.
DUNEDIN
100 GARDNER ROAD, DUNEDIN, AUCKLAND
P.O. BOX 2910, WILSON STREET, DUNEDIN
PH 03 833 7111 FAX 03 833 7887

CLIENT: MANGAWHAI HEADS HOLDINGS LTD
PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION
KAPAWITI RD, MANGAWHAI

**PRIVATE ACCESS WAY
LOCATIONS PLAN**

SCALE @ A1	1:1000	SCALE @ A2	1:2000
PROJECT No	23219	CDG FILE	14 (Resource Consent Resource Planning)
DWG No	C138	REV	A



REV	AMENDMENT	CHECKED	DATE	NAME	DATE	PROJECT/CONSULTANT
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	SURVEYED		
				DESIGNED	G.T	28/08/08
				DRAWN	SP	28/08/08
				TRACED		
				CHECKED	G.T	28/08/08

KEA CONSULTANTS

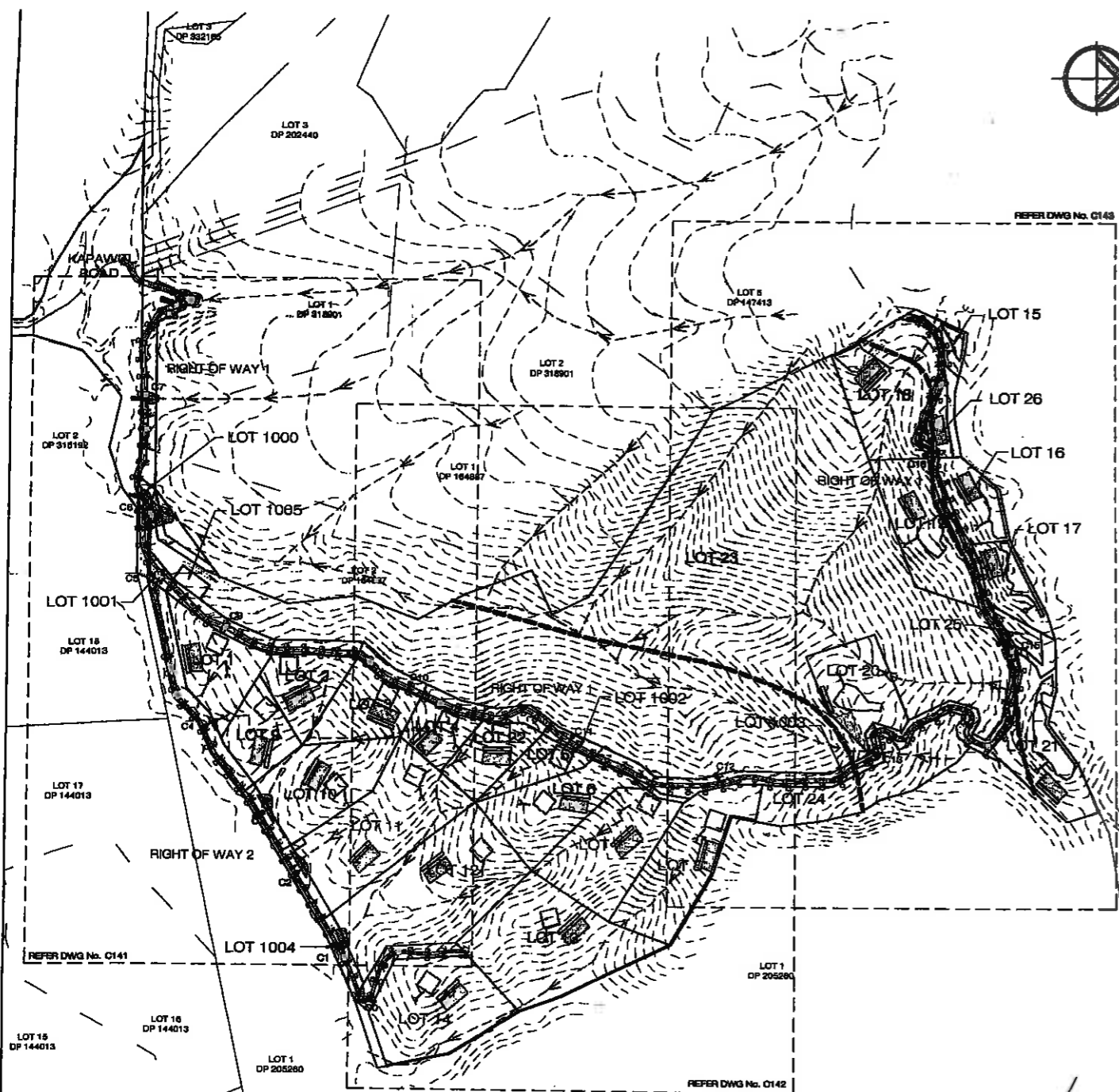
DETACHED House, Level 3
100 Gresham Road, Gresham, Auckland
P.O. Box 91188, 100 Gresham Road, Auckland
PH 09 839 7838 FAX 09 839 7117

CLIENT: MANGAWHAI HEADS HOLDINGS LTD

PROJECT/LOCATION: KAPAWITI ROAD SUBDIVISION KAPAWITI RD, MANGAWHAI

TITLE: KDC ROADING STANDARD DETAILS

SCALE @ A1	SCALE @ A2
N.T.S	N.T.S
PROJECT No: 23219	DWG FILE: H:\Projects\Access Planning\Plan.dwg
DWG No: C139.1	REV: A



LEGEND:

- LOT BOUNDARY LINE
- BUILDING PLATFORM
- OVERLAND FLOW (NATURAL)
- EXTENT OF FLOODPLAIN
- NEW CULVERT
- STABILISED OUTLET OFF PRIVATE WAY
- OUTLET FROM RAINWATER TANK AND PRIVATE LOT ACCESS
- WASTEWATER IRRIGATION AREA
- RESERVE WASTEWATER IRRIGATION AREA
- N65 BOUNDARY
- PROPOSED RIGHT OF WAY

CULVERT DESIGN SUMMARY

CULVERT	CATCHMENT AREA (Ha)	ARI 100 FLOW (m³/s)	CULVERT DIA. (mm)	SLOPE (%)	CAPACITY (m³/s)	APRON		
						THICK (mm)	WIDTH (m)	LENGTH (m)
C1	7.54	2.13	1050	0.6	2.16	400	3.00	8.00
C2	1.44	0.42	525	0.9	0.42	500	1.50	8.00
C3	2.95	0.85	750	1	1.11	500	2.30	8.00
C4	1.18	0.34	525	1	0.43	400	1.50	8.00
C5	0.73	0.27	600	1	0.84	400	1.80	7.00
C6	39.80	7.97	1200	3.5	7.97	800	3.00	14.00
C7	3.94	1.12	900	0.6	2.01	500	2.70	9.00
C8	19.35	3.87	1050	2	3.86	800	3.00	14.00
C9	0.21	0.07	450	0.1	0.09	100	1.50	1.50
C10	0.19	0.07	450	0.1	0.22	100	1.50	1.50
C11	0.23	0.07	450	0.1	0.22	100	1.50	1.50
C12	1.22	1.33	900	0.5	2.01	500	2.70	8.00
C13	0.73	0.22	525	0.5	0.31	300	2.00	4.00
C14	0.97	0.28	525	0.5	0.31	300	2.00	4.00
C15	0.85	0.19	525	0.5	0.22	200	1.50	4.00

100 YEAR ARI FLOODPLAIN LEVELS

CULVERT	CHAINAGE	DESIGN LEVEL	EX. GROUND	FLOW DEPTH	FLOOD LEVEL
C8	70	33.07	30.8	1.00	34.1
C7	190	30.83	30.6	0.45	31.1
C5	311	31.96	31.4	1.00	32.7
C5	10	39.00	39.1	0.4	39.4
C4	194	37.55	34.0	0.4	38.1
C9	318	31.00	31.4	0.4	31.4
C2	390	33.30	33.1	0.4	33.7
C1	487	34.85	33.1	0.55	35.5

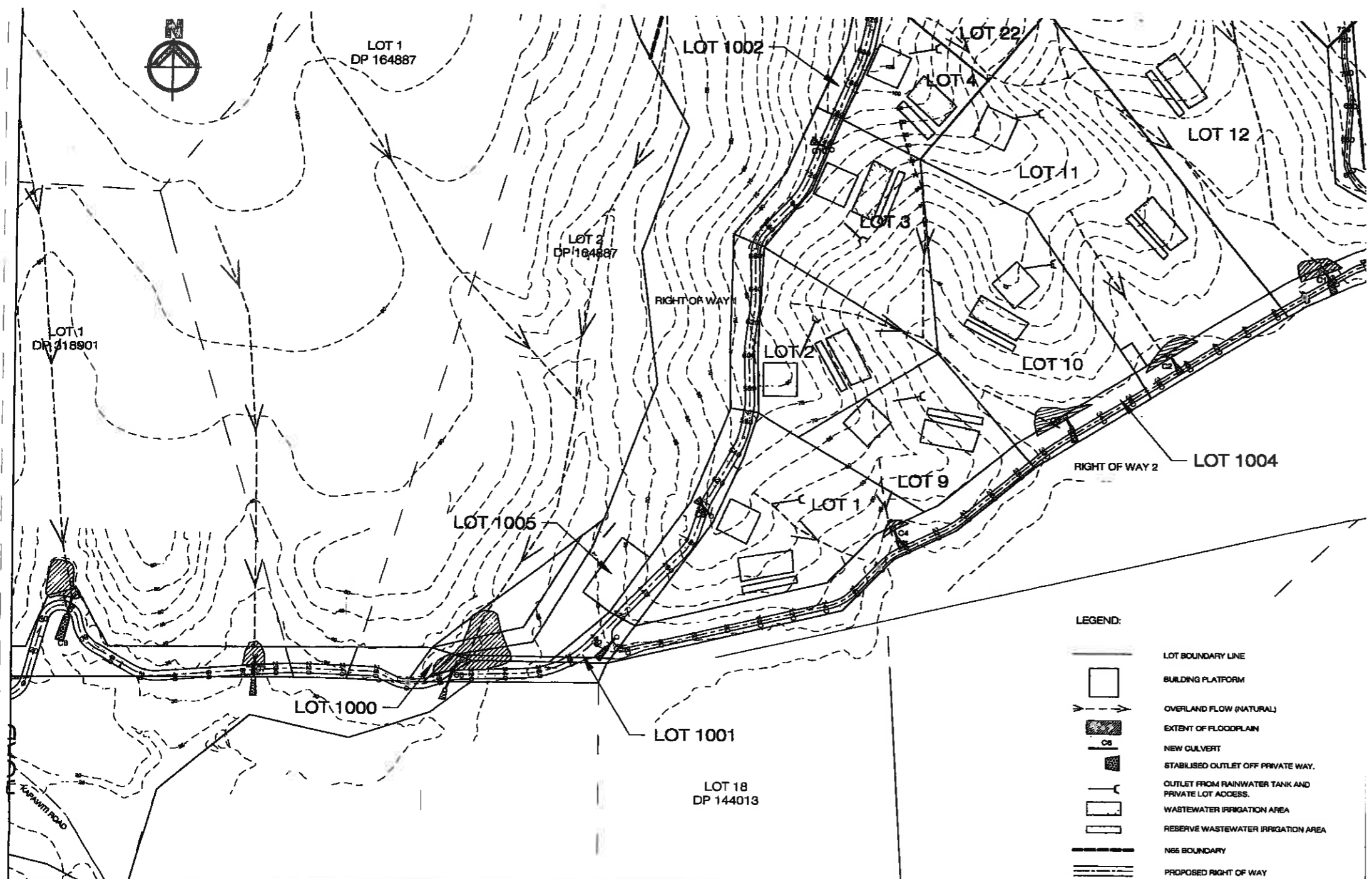
REV	REVISION	CHECKED	DATE	NAME	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	SURVEYED	
				DESIGNED	G.T 28/06/08
				DRAWN	SP 28/06/08
				TRACED	
				CHECKED	G.T 28/06/08

KE CONSULTANTS LTD
 DATAKOM House, Level 3
 480 Gladstone Road, Gladstone
 P.O. Box 3195 Walsley Road, Auckland
 PH 09 850 7038 Fax 09 850 7037

CLIENT: MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI

TITLE: OVERALL DRAINAGE PLAN

SCALE #A1: 1:2500
 SCALE #A2: 1:5000
 PROJECT NO: 23219
 DWG NO: C-140
 REV: A



- LEGEND:
- LOT BOUNDARY LINE
 - BUILDING PLATFORM
 - OVERLAND FLOW (NATURAL)
 - EXTENT OF FLOODPLAIN
 - NEW CULVERT
 - STABILISED OUTLET OFF PRIVATE WAY
 - OUTLET FROM RAINWATER TANK AND PRIVATE LOT ACCESS
 - WASTEWATER IRRIGATION AREA
 - RESERVE WASTEWATER IRRIGATION AREA
 - N66 BOUNDARY
 - PROPOSED RIGHT OF WAY












REV	AMENDMENT	CHECKED	DATE	DESIGNED	DATE	PROJECT CONSULTANT
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	SURVEYED		
				DESIGNED	CLT	28/06/08
				DRAWN	BP	28/08/08
				TRACED		
				CHECKED	CLT	28/06/08

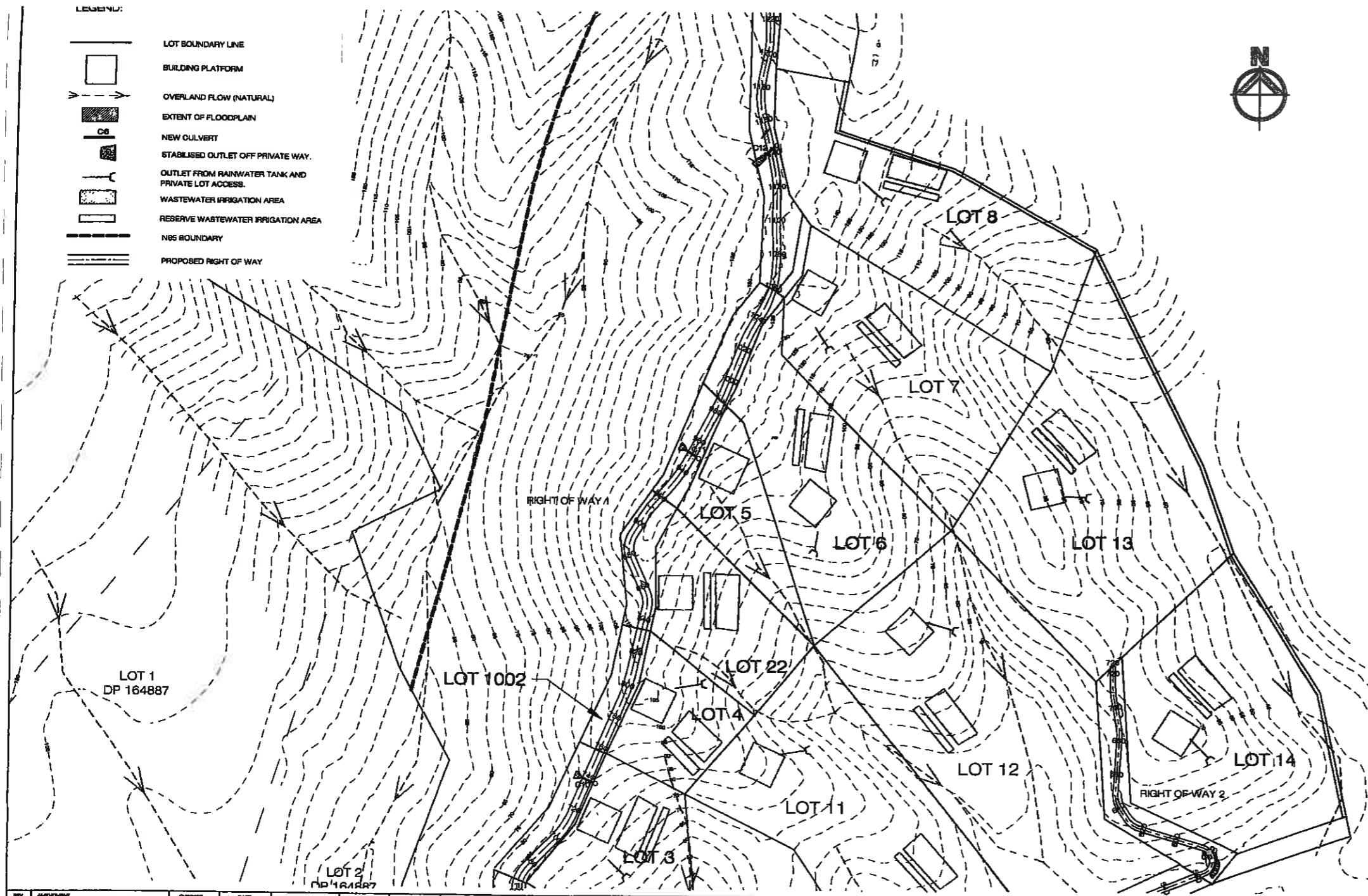


CLIENT: MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI

TITLE: PART DRAINAGE DETAIL PLAN
 (SHEET 1 OF 3)

SCALE #1	SCALE #2
1:1000	1:2000
PROJECT No: 23219	CAD FILE: N:\Projects\23219\23219.dwg
DWG No: C141	REV: A

- LEGEND:**
-  LOT BOUNDARY LINE
 -  BUILDING PLATFORM
 -  OVERLAND FLOW (NATURAL)
 -  EXTENT OF FLOODPLAIN
 -  NEW CULVERT
 -  STABILISED OUTLET OFF PRIVATE WAY
 -  OUTLET FROM RAINWATER TANK AND PRIVATE LOT ACCESS
 -  WASTEWATER IRRIGATION AREA
 -  RESERVE WASTEWATER IRRIGATION AREA
 -  N65 BOUNDARY
 -  PROPOSED RIGHT OF WAY



REV	AMENDMENT	CHANGED	DATE	SURVEYED	NAME	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	DESIGNED	G.T	28/08/08
				DRAWN	SP	28/08/08
				TRACED		
				CHANGED	G.T	28/08/08












KE CONSULTANTS LTD
 180 Graven Hill, Graven Hill
 P.O. Box 11288, Wellesley Street, Auckland
 Ph 09 424 7200 Fax 09 424 7300

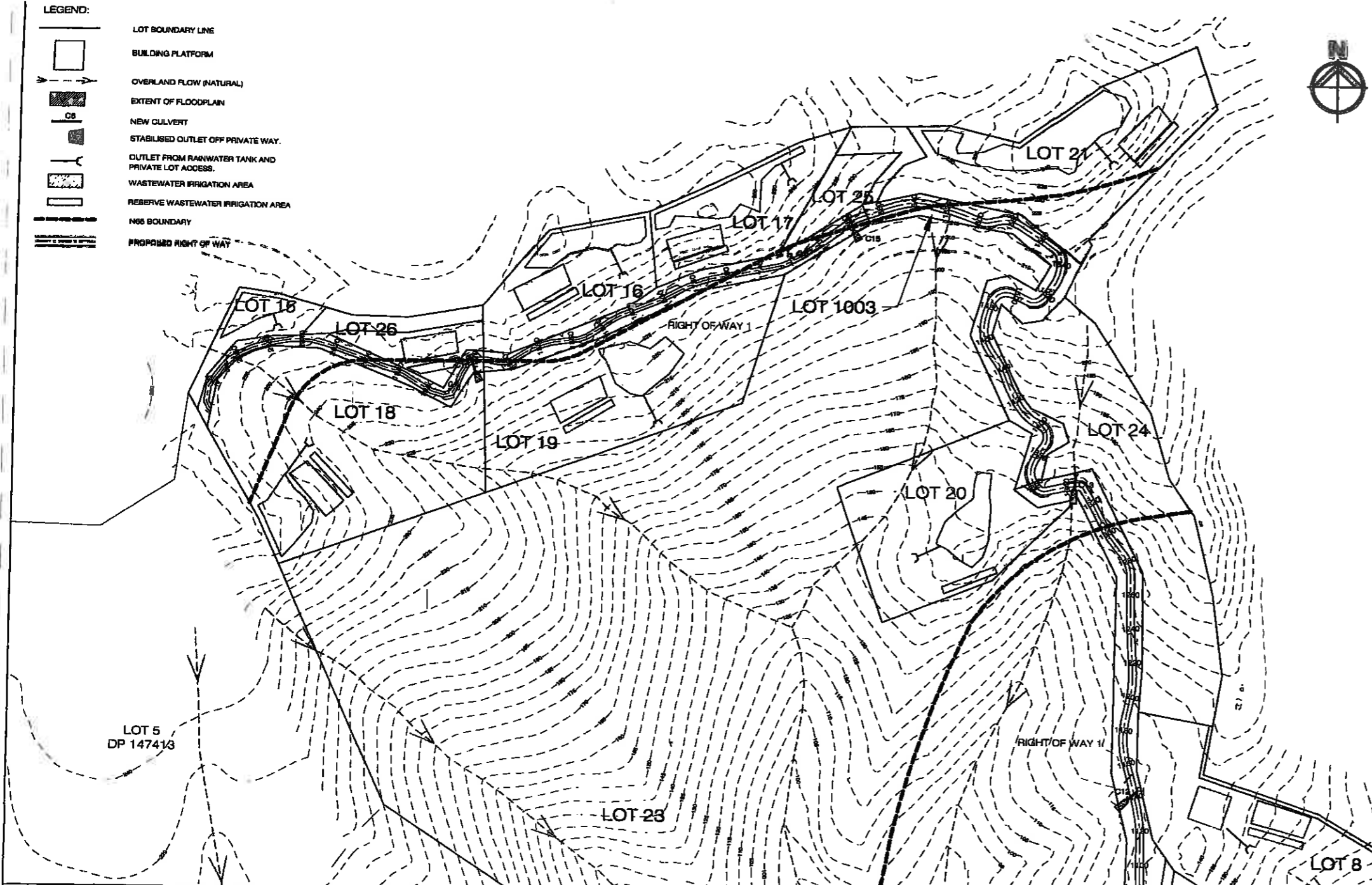
CLIENT: MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI

TITLE: PART DRAINAGE DETAIL PLAN
 (SHEET 2 OF 3)

SCALE D-01	SCALE D-02
1:1000	1:2000
PROJECT No: 23219	CDI FILE: A:\Projects\23219\23219-Drainage-Plan.dwg
DWG No: C142	REV: A

LEGEND:

-  LOT BOUNDARY LINE
-  BUILDING PLATFORM
-  OVERLAND FLOW (NATURAL)
-  EXTENT OF FLOODPLAIN
-  NEW CULVERT
-  STABILISED OUTLET OFF PRIVATE WAY
-  OUTLET FROM RAINWATER TANK AND PRIVATE LOT ACCESS
-  WASTEWATER IRRIGATION AREA
-  RESERVE WASTEWATER IRRIGATION AREA
-  N88 BOUNDARY
-  PROPOSED RIGHT OF WAY



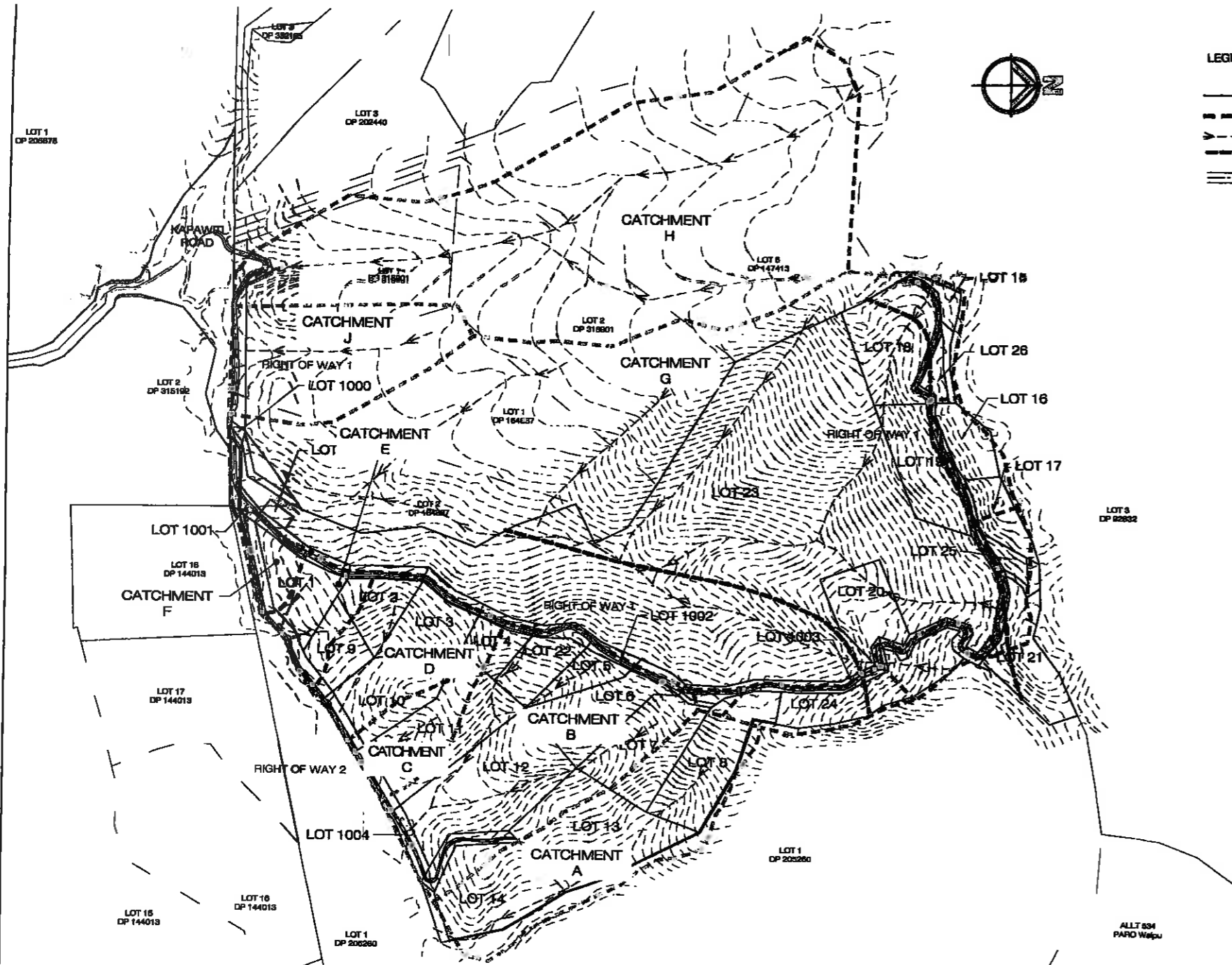
REV	AMENDMENT	CHKD BY	DATE	BY	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	SURVEYED	
				DRAWN	28/06/08
				TRACED	28/06/08
				CHECKED	28/06/08

KEA CONSULTANTS LTD
 CONSULTANTS LTD
 100 Queen Road, Grafton, Auckland
 P.O. Box 5186 Wellesley Street, Auckland
 Ph: 09 837 7111

CLIENT
MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION
KAPAWITI ROAD SUBDIVISION
KAPAWITI RD, MANGAWHAI

TITLE
PART DRAINAGE DETAIL PLAN
 (SHEET 3 OF 3)

SCALE OF A1	1:1000	SCALE OF A3	1:2000
PROJECT NO	23219	CAD FILE	11Project\23219\23219.dwg
DWG NO		REV	



- LEGEND:**
- LOT BOUNDARY LINE
 - - - - - CATCHMENT BOUNDARY LINE
 - → → → → OVERLAND FLOW (NATURAL)
 - ==== NBS BOUNDARY
 - ==== PROPOSED RIGHT OF WAY

REV	AMENDMENT	CREATED	DATE	BY	DATE	PROJECT CONSULTANT
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	SURVEYED		
				DESIGNED	G.T	28/08/08
				DRAWN	SP	28/08/08
				TRACKED		
				CHECKED	G.T	28/08/08

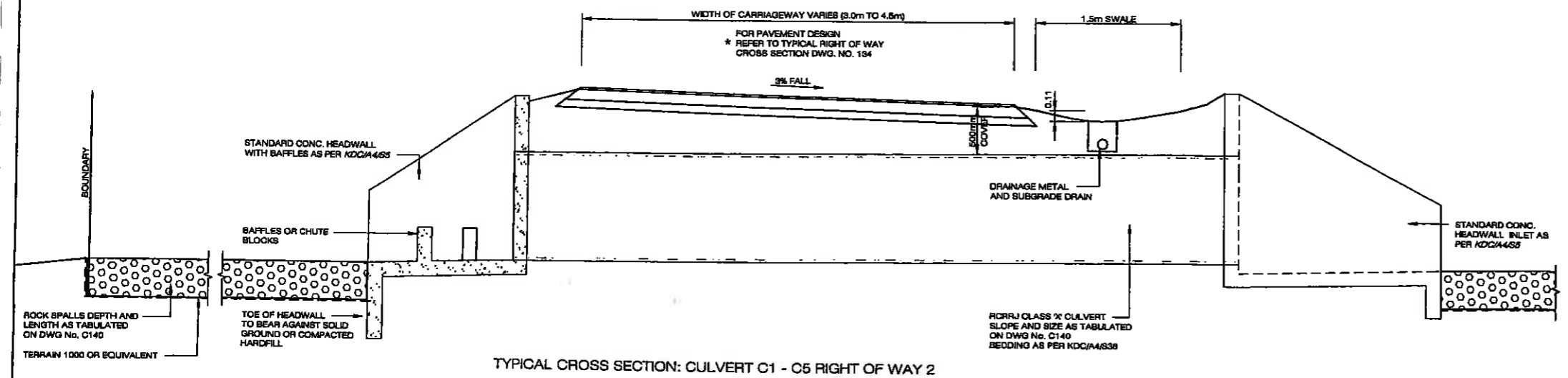
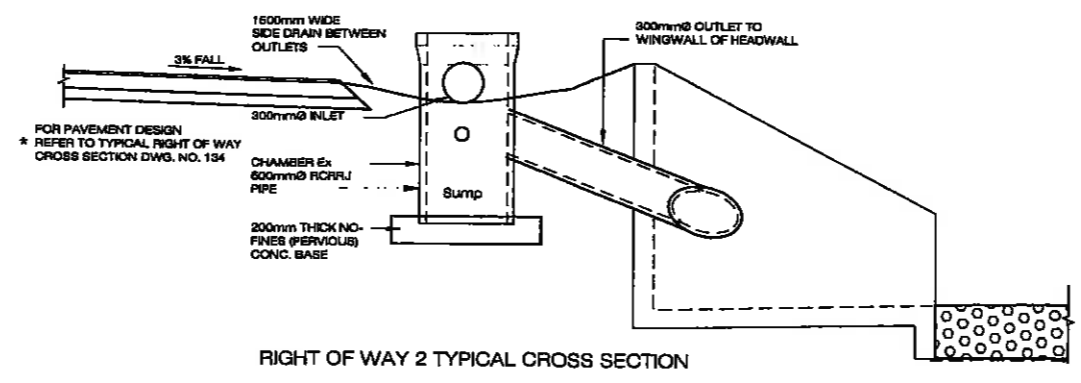
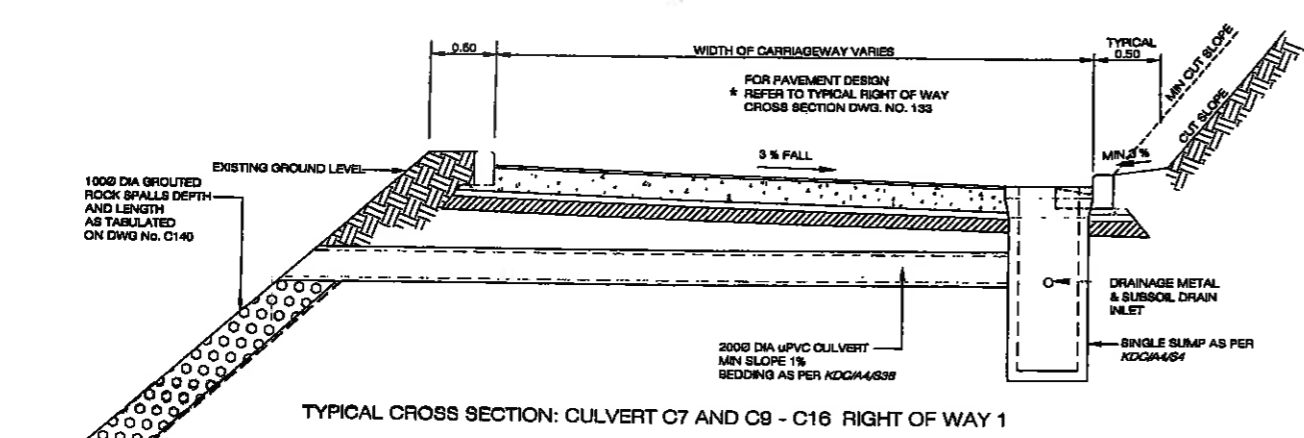


CLIENT
MANGAWHAI HEADS HOLDINGS LTD

PROJECT LOCATION
KAPAWITI ROAD SUBDIVISION
KAPAWITI RD, MANGAWHAI

TITLE
OVERLAND FLOW AND
STORMWATER CATCHMENT
PLAN

SCALE AS SHOWN	SCALE AS IS
1:2500	1:5000
PROJECT NO 23219	CAD FILE H:\Projects\Approved Resource Consent Rev.dwg
DWG NO C144	REV A



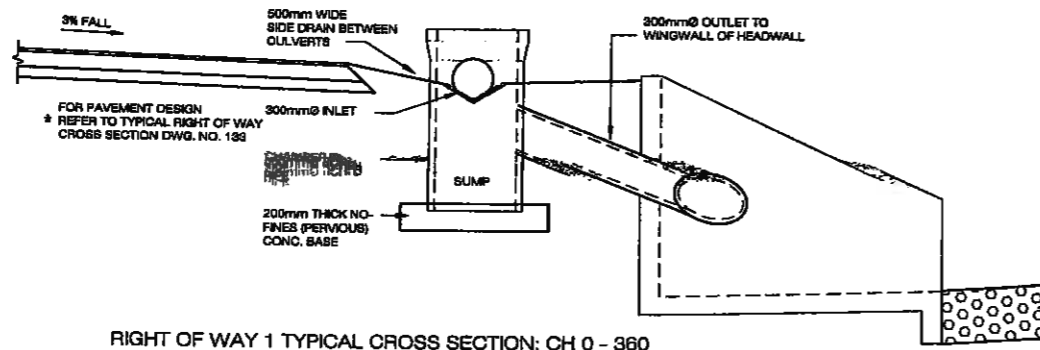
REV	DESCRIPTION	CHECKED	DATE	NAME	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	SURVEYED	
				DESIGNED	G.T 28/06/08
				DRAWN	SP 28/06/08
				TRACED	
				CHECKED	G.T 28/06/08

KEA CONSULTANTS LTD
 CONSULTANTS
 100 Oriental Road, Grafton, Auckland
 P.O. Box 2100, 1140 Valley Road, Auckland
 Ph: 09 833 7898 Fax: 09 833 7897

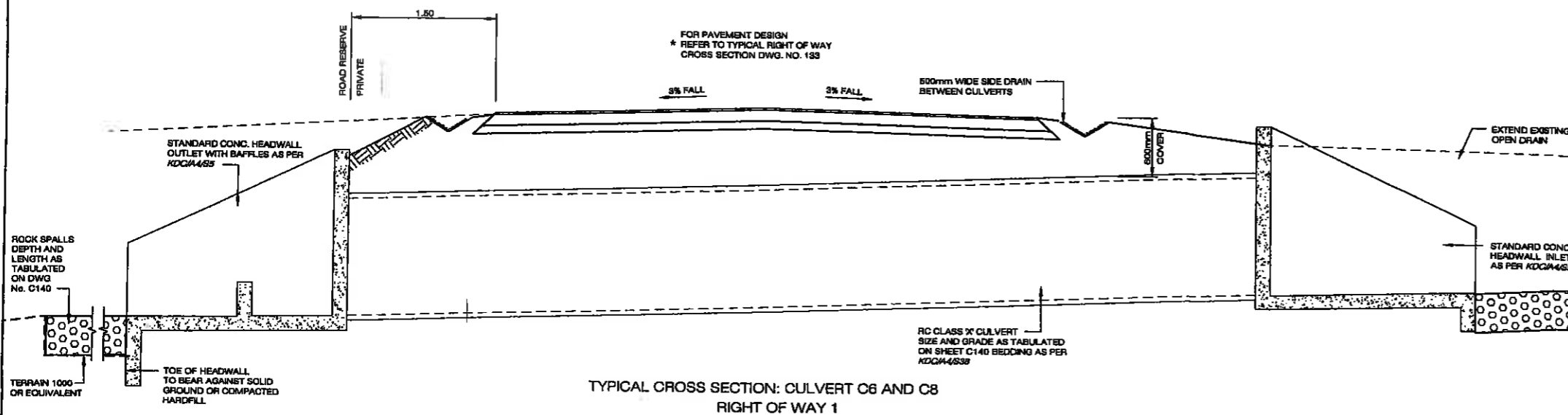
PROJECT CONSULTANT
MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION
 KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI

CLIENT
MANGAWHAI HEADS HOLDINGS LTD
 TITLE
CULVERT DETAILS
 (SHEET 1 OF 2)

SCALE # A1 1:20	SCALE # A3 1:40
PROJECT NO 23219	CAD FILE N:\Projects\23219\Kapa\Kapa\DWG\Kapa\Kapa.dwg
DWG NO C145	REV A



RIGHT OF WAY 1 TYPICAL CROSS SECTION: CH 0 - 360



TYPICAL CROSS SECTION: CULVERT C6 AND C8
RIGHT OF WAY 1

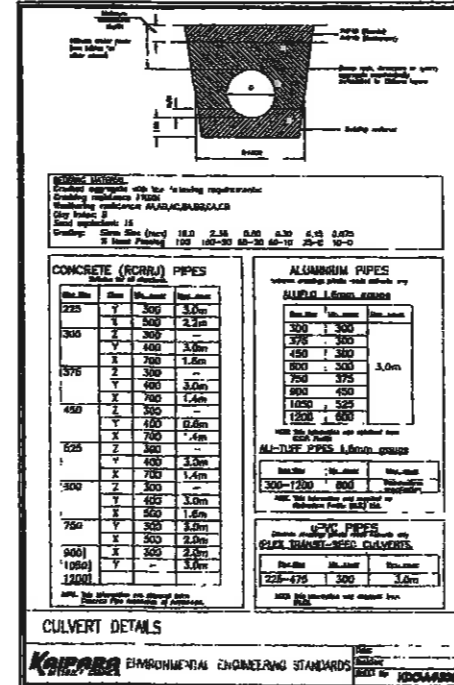
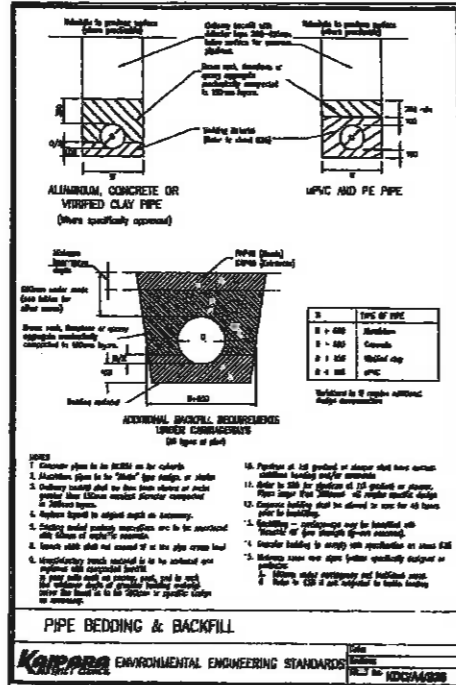
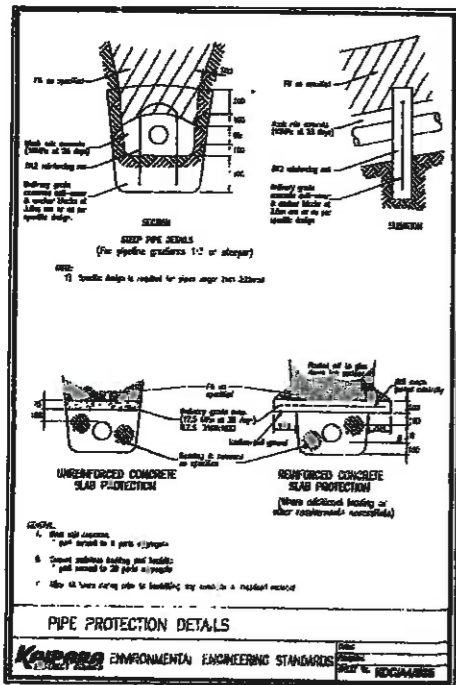
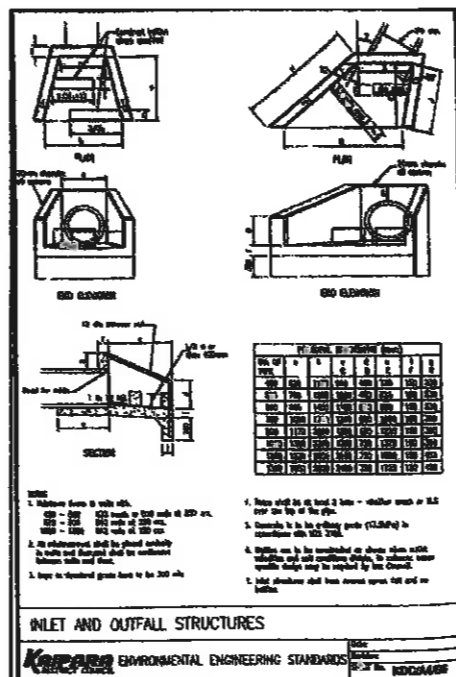
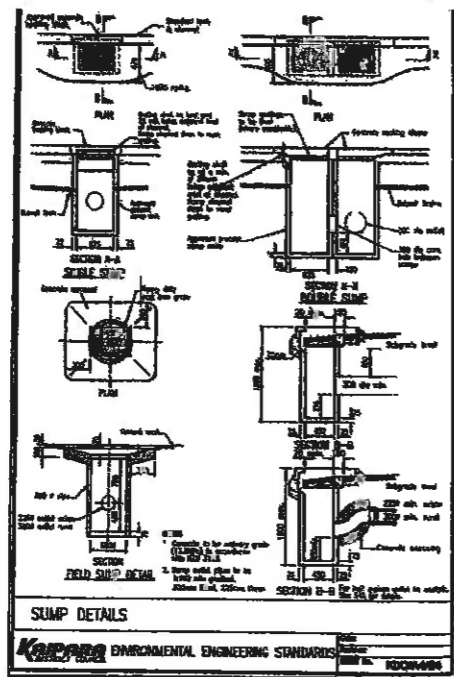
REV	REVISION	CHECKED	DATE	DRAWN	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08	SUPPVED	
				CHECKED	G.T 28/06/08
				DRAWN	SP 28/06/08
				TRACED	
				CHECKED	G.T 28/06/08

KEA
CONSULTANTS LTD
130 Graham Road, Otara, Auckland
P.O. Box 9125 Wellesley Street, Auckland
Tel: 09 524 7472

CLIENT: MANGAWHAI HEADS HOLDINGS LTD
PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION KAPAWITI RD, MANGAWHAI

TITLE: CULVERT DETAILS (SHEET 2 OF 2)

SCALE @ A1: 1:20	SCALE @ A3: 1:40
PROJECT NO: 23219	CAD FILE: C:\Projects\23219\23219.dwg
DWG NO: C146	REV: A



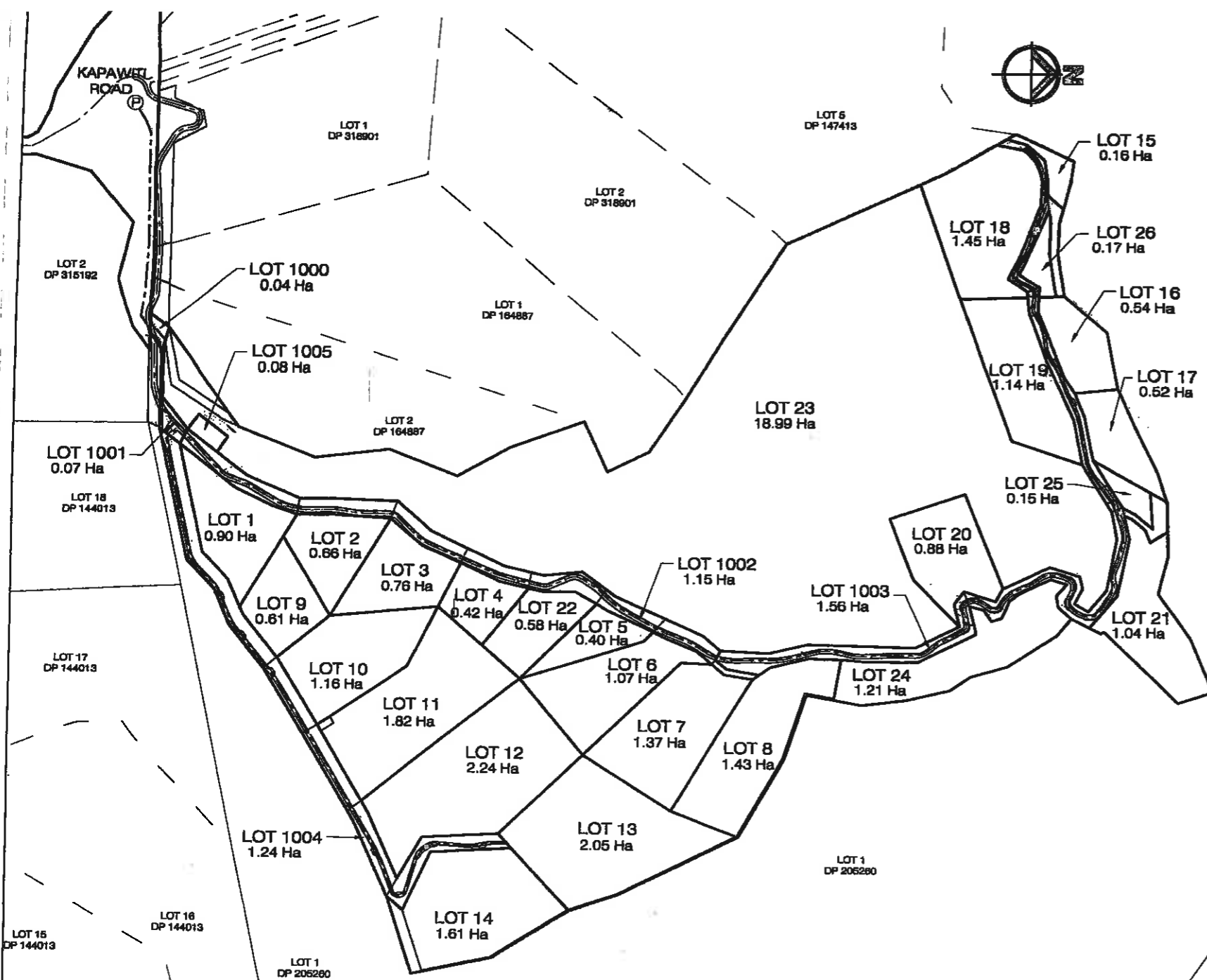
REV	AMENDMENT	CHANGED	DATE	BY	DATE
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08		

KE CONSULTANTS LTD.
 202, Basmal Street, Auckland
 Phone: 09 488 7811

MANGAWHAI HEADS HOLDINGS LTD
 PROJECT LOCATION:
 KAPAWITI ROAD SUBDIVISION
 KAPAWITI RD, MANGAWHAI

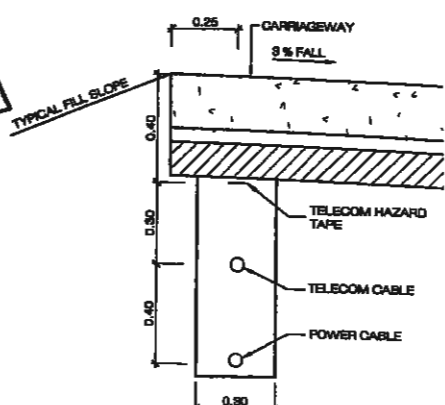
KDC STANDARD DETAILS

SCALE P1-A1: 1:20
 SCALE P1-A2: 1:40
 PROJECT No: 23219
 DWG No: C147
 REV: A



LEGEND:

- POWER AND TELECOM CABLE
- POWER POLE



TYPICAL RIGHT OF WAY
TRENCH DETAIL
SCALE 1:10 (A1), 1:20 (A3)
NOTE: EXCLUDES SECTION -36.00 TO 280.00

REV	AMENDMENT	CHECKED	DATE	SURVEYED	DATE	PROJECT CONSULTANT
A	ISSUED FOR RESOURCE CONSENT	A.K	17/10/08			
				DESIGNED	A.K	28/06/08
				DRAWN	SP	28/06/08
				TRACED		
				CHECKED	G.T	28/06/08



CLIENT: MANGAWHAI HEADS HOLDINGS LTD
PROJECT LOCATION: KAPAWITI ROAD SUBDIVISION, KAPAWITI RD, MANGAWHAI

POWER AND TELECOM PLAN

SCALE (A1)	SCALE (A3)
1:2000	1:4000
PROJECT NO: 23219	CAD FILE: M:\Projects\23219\Kape\23219.dwg
DWG NO: 23219-01	REV: 1